

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol. 38.

CONTENTS FOR DECEMBER, 1924

No. 3.

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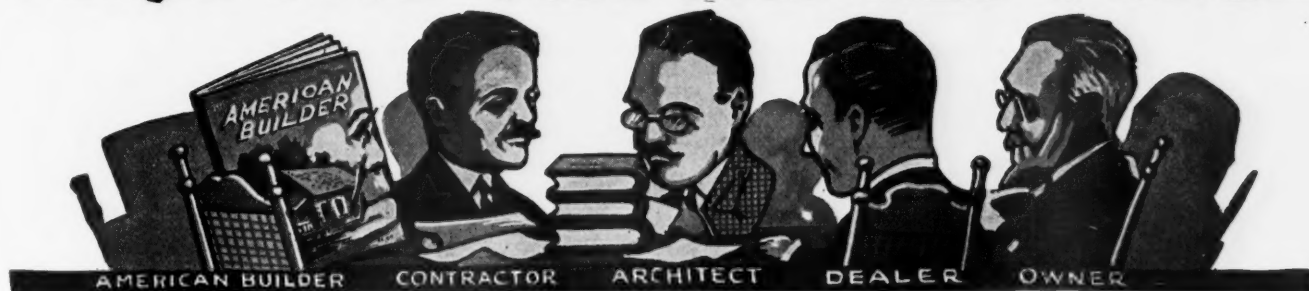
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AROUND THE FAMILY TABLE



Christmas Is Coming

This is the Time of the Year to Give Home Building Encouragement and to Scatter Abroad the Home Building Message

ON another page of this issue, you will find a Christmas poem and a little art sketch which present a very great truth in rather a novel way—the truth that it is HOME that makes the Christmas. The real home, whether it is new or remodeled, or just the old home place, is the center of the happiness which Christmas is supposed to bring.

The readers of the AMERICAN BUILDER occupy an important place in the scheme of things. You are responsible for home building and home planning in your community. Did it ever occur to you that at Christmas time, in particular, your message of home building is particularly timely and appropriate?

When you give a family the idea of building a new home, you are really giving them the best of all gifts; because if your idea is acted upon and followed through, a new home is built that will make possible the full enjoyment of every other gift.

Perhaps you have never looked at yourself and your work in quite this missionary way before. You are a practical man—building is your business. But at this season of the year let us get around onto the other side and look at this business from the point of view of the family who will own and occupy the house you build—who will make of it a real home.

Many of our readers are planning to give a year's subscription of AMERICAN BUILDER to some of their friends who are in the building business, or who are planning to build a new home. They are planning to make some of their friends happy on Christmas Day; and we have prepared a very attractive Christmas Card or Certificate, which will bear the name and Christmas greetings of the donor. If you will advise us NOW the names of those of your friends you want to remember with this very appropriate Christmas gift, we will make out the Christmas Certificates and get them there on time.

There is no Christmas remembrance, costing only \$2.00, that would be better than the AMERICAN BUILDER, or more appreciated by anyone who is in the building business or who is planning to build and is looking around for the newest and best ideas and home building suggestions.

Use the convenient order slip inclosed with this magazine for sending in a Christmas subscription for one or more of your friends.

Canadian Subscription Price Reduced

Our Canadian friends will be pleased to note that beginning with this month, the AMERICAN BUILDER subscription price to Canada is only \$2.00 per year, postage prepaid—just the same price as on this side of the border.

The same is also true for Mexico. AMERICAN BUILDER subscription price to Mexico from now on is only \$2.00 per year, postage prepaid.

We are very glad to make this price reduction. Building ideas all over the North American Continent are pretty much the same. The same designs are used and the same types of building materials are employed. The AMERICAN BUILDER has always enjoyed a very substantial circulation in Canada, and we expect that now with this lower price this circulation will grow to still larger dimensions.

Many of our advertisers are able to serve the Canadian markets efficiently, either direct or through their Canadian branches. We are very glad to be in position to render a still larger service to these manufacturers through this reduction of subscription rates to Canada and Mexico, which will naturally increase the circulation of the AMERICAN BUILDER in these important neighboring countries.

EDITOR AMERICAN BUILDER.



Res. of James Gilmore, Esq., Reg. Arch. Cincinnati, Ohio, Bishopric Ivory Cream Stucco over Bishopric Base on all exteriors.

Stucco walls of greater strength

Ordinary Stucco



Bishopric Stucco



The enormous tensile strength of Bishopric Stucco is illustrated here. This is just one of the Bishopric guarantees of permanence on the wall.

How Bishopric provides lasting beauty and protection

Rare beauty of shade and texture, with permanent protection from the elements are exclusive Bishopric qualities that are being appreciated more and more by those interested in home-building. BISHOPRIC is a super-stucco with greatly increased strength, thus providing durability and protection so vital to every building, whether it be large or small. In Bishopric only can be obtained the wide variety of beautiful shades and textures now demanded by those who appreciate the best. With Bishopric, beauty and protection go hand in hand.

Tensile strength tests show BISHOPRIC far superior to other stuccoes.

BISHOPRIC is fireproof, magnesite rock used is the same as that used to line furnaces and smelters — Tremendous heat has no effect on it.

BISHOPRIC is thoroughly water-proofed by a secret process shutting out moisture, cold, heat, wind and vermin.

BISHOPRIC Insulation Qualities are practically perfect, retarding heat and cold, eliminating objectionable noises.

BISHOPRIC requires no painting or renewing — A wall built to stand for generations.

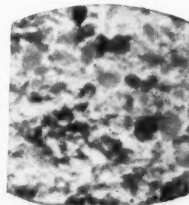
In mansion or bungalow, Bishopric Stucco has a place, whether laid over stately lines or designed after those quaint cottage effects, now so popular.

Bishopric Stucco endures in every clime, retaining its strength and its original color in temperatures of either extreme. Economical in original cost, negligible in upkeep, warm in winter and cool in summer, BISHOPRIC STUCCO over BISHOPRIC BASE not only wins friends but keeps them. And no wonder, for it yields itself to any form and endures from generation unto generation.

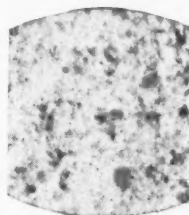
An interesting booklet "Bishopric For All Time and Clime," illustrated with photographs of beautiful houses built with Bishopric Stucco, plaster and sheathing units will be mailed you Free.

Bishopric is Sold by Dealers Everywhere
The BISHOPRIC MANUFACTURING CO.
5151 E. AVE. CINCINNATI, OHIO
NEW YORK, CITY CLEVELAND OTTAWA, CANADA
The BISHOPRIC MFG. CO. OF CALIFORNIA
LOS ANGELES

Ordinary Stucco



The average stucco being marketed today is extremely porous and therefore NOT WATER-PROOF. Notice the spongy porous formation in this enlargement and compare the density of Bishopric shown below.



Bishopric Stucco

BISHOPRIC STUCCO *over* BISHOPRIC BASE

"A Complete Wall Unit for all Time and Clime"

AMERICAN BUILDER

Formerly AMERICAN CARPENTER AND BUILDER

Consistent Success in Building

Telfair Stockton of Jacksonville, Florida, Wins His Way to Position as Big Operator and Factory Owner in Twenty Years

By G. H. DACY

WHEN Telfair Stockton arrived in Jacksonville, Florida, more than twoscore years ago, his pockets were empty, his financial resources were nil.

Today Mr. Stockton ranks as one of Florida's master-builders, a developer of million dollar subdivisions, a man who has built and sold 98 homes worth about \$995,000 during the last two years, a real estate operator who has facilitated home ownership in Florida by selling on exceptionally easy terms.

This prominent Floridian entered the building game by the rear door. Early in life he was the main support of his mother and twelve brothers and sisters. In those days he ran a newstand and studied law at night. Fate, however, made a builder of the former

newsboy who wanted to be a lawyer. About the time that young Stockton was ready to raise his attorney's shingle, real estate in Jack-

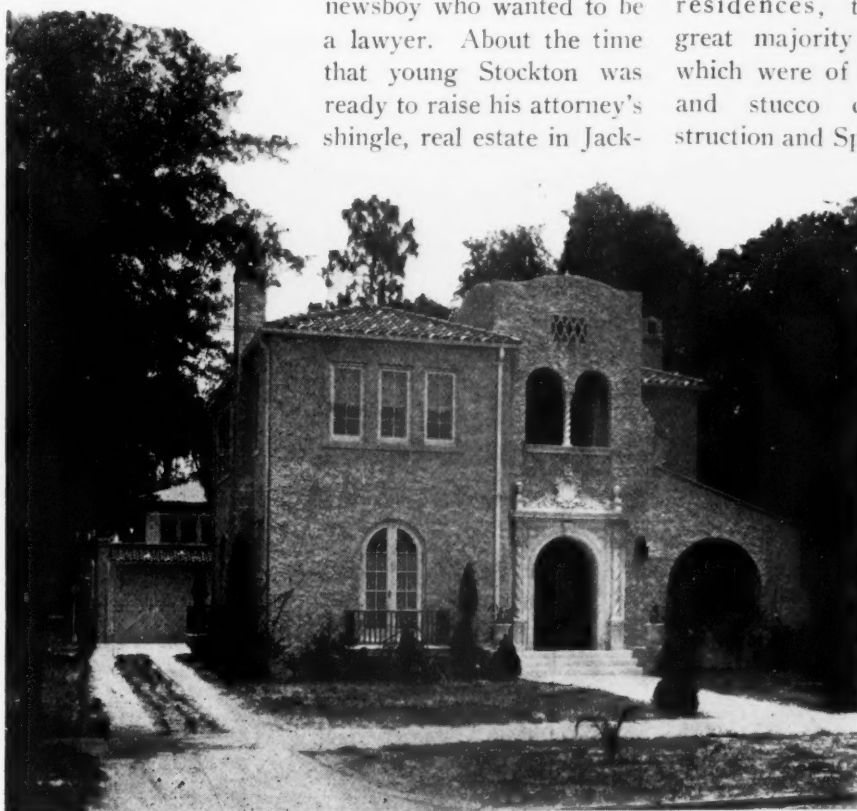
sonville began to boom. Telfair needed money. So instead of entering the legal fraternity he joined the real estate fraternity.

Five of the best office buildings in Jacksonville which range in value from \$200,000 to \$300,000 have been erected and sold under his supervision.

During the last two years he has built and sold 98 residences, the great majority of which were of tile and stucco construction and Span-



Telfair Stockton Has Won His Way to Success Through Building Homes in Florida.

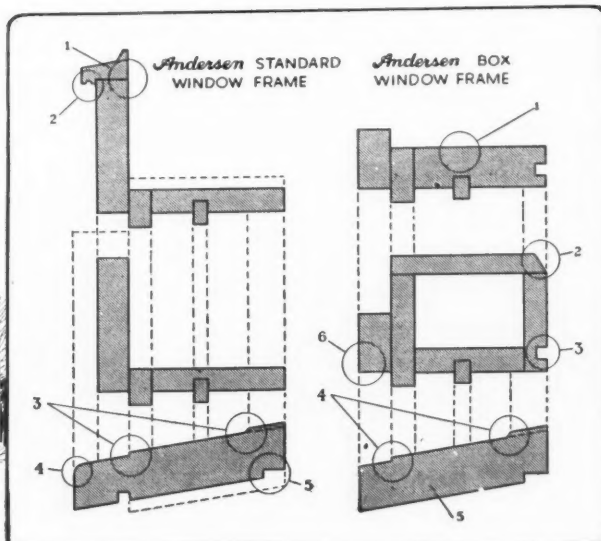


Three Out of Four of the Stockton Built Homes Are of the Spanish Type. The illustration on page 68 shows the detail of the doorway and the stucco finish on this home.

ish architecture. In order to facilitate home ownership Mr. Stockton fostered a system of selling Florida's Gateway City with unusually easy terms. The houses that ranged from \$4,500 to \$8,000 in value he sold on a cash payment of one-tenth and subsequent monthly payments of one per cent every 30 days. On the residence worth from \$8,000 to \$18,000, he required one-fifth in cash and the balance on very liberal monthly terms.

During the World war a prominent shipbuilding corporation built 158 stucco and metal lath bungalows

We have interesting booklets for
Architects, Contractors and Dealers.
Please tell which booklet you want.



New Features On Andersen Frames

THERE'S not a person interested in building who will not find it an advantage to have these new special features on the Andersen Frame.

Regular Frame—Detail No. 7 For Frame Buildings

1. Rabbet in the water drip insures perfectly tight fit and prevents water from running back in under the casing.
2. The groove under the front edge of the water drip also prevents water from running back.
3. The double shoulders on the sill, against which the storm sash and bottom sash rests. These make it impossible for either wind or water to enter the building at any point along the sill.
4. The rounded front edge of the sill prevents slivering at that point.
5. The rabbet on the bottom of the sill towards the back edge of the frame, into which a piece of 1x4 false casing may be inserted, or the lath and plaster may be run up into this rabbet.

NOTE:—Subsill frames are furnished where that construction is required.

Box Window Frame—Detail No. 14-C For Brick, Tile and Concrete Walls

1. Thick head jamb is furnished to give strength where most needed.
2. The back liner is thick and beveled on inside edge so a narrow inside finish may be used. It also provides a clinch to the plaster.
3. The inside casing is plowed for jamb liner instead of rabbeted. Where the frames are used for 8 inch walls, the plow may be covered over by the inside finish whereas a rabbet would have to be filled.
4. The sill has a double shoulder the same as the frame building frame, and has the rabbet into which the false casing may be inserted or the lath and plaster may be run up into it.
5. The sill is wide so that a regular storm sash can be used.
6. The brick moulding is square, making a neater moulding than the old beaded brick moulding and gives a better chance to fasten the buttons for storm sash and screens.

Andersen Lumber Company

Dept. A-12

Bayport, Minnesota

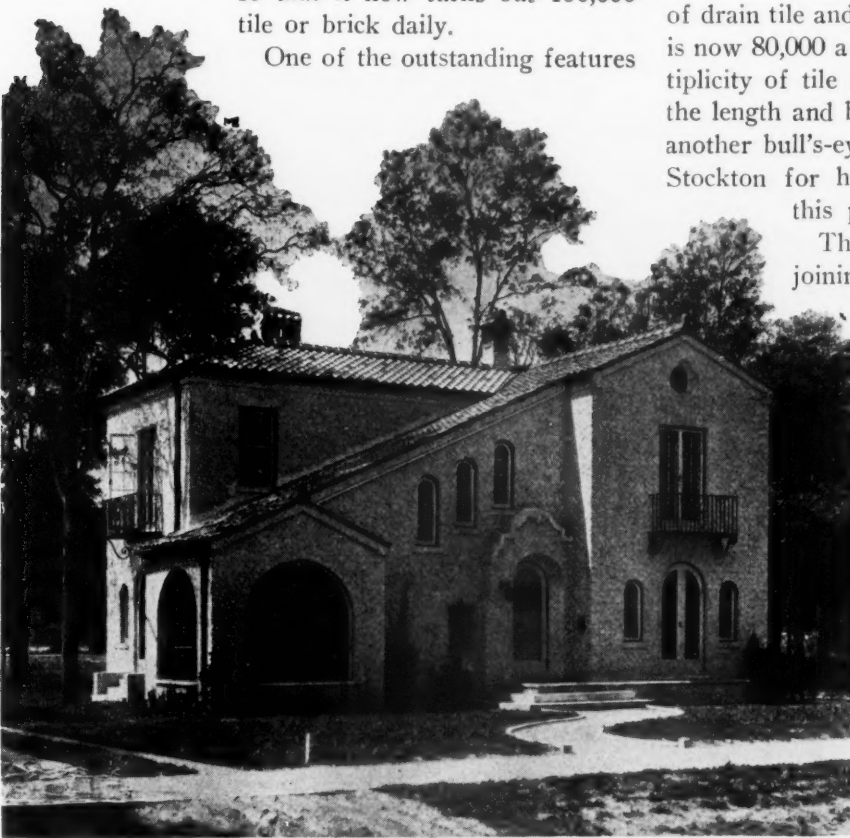
Andersen FRAMES

in South Jacksonville. Later Telfair Stockton negotiated a \$600,000 deal by which these homes were sold to families who purchased them on very small cash payments and easy terms. It would cost double the average sales price to reproduce these bungalows today. Because Telfair Stockton is an advocate of rapid turnover, small individual profits and volume of sales, home ownership is being expedited rapidly in his section of Florida.

Some years ago when the good roads' movement was first shaking hands with Floridian sands and swamps, Telfair Stockton built a paving brick plant near Jacksonville on the banks of the St. John's River where the clay resources were ample. He planned to manufacture paving brick which would be used in building permanent highways across Florida's expansive terrain. This paving brick plant was the only business failure which can be recorded against Mr. Stockton. And, at that, it can hardly be called a failure for when Mr. Stockton appreciated that his original ideas were faulty, almost overnight, he purchased an interlocking tile invention and mobilized the resources of his factory to manufacture that product.

From that day to this the Jacksonville factory has specialized in the making of building tile and brick. The plant is small as its daily output is only 50,000 brick or tile but its success has, nevertheless, been phenomenal. As a result Mr. Stockton purchased a second plant at Columbus, Georgia. He has devoted this factory also to the manufacture of tile and brick so that it now turns out 150,000 tile or brick daily.

One of the outstanding features



Tile Roofs, Breezy Porches, Attractive Wrought Iron Balconies and Many Other Features of the Stockton Built Homes Make Them Especially Attractive to Those Seeking a Home in Florida.



An Excellent Example of the Smaller Homes Built and Offered for Sale by Mr. Stockton.

of the Columbus plant is a tunnel kiln—one of the few of its kind in the country. The raw material is loaded into the kiln at one end and 55 hours later the manufactured product is delivered at the opposite end of the device.

Recently at Chattanooga, Tennessee, Mr. Stockton has added a third plant to his chain. The shale of that locality is admirably adapted for the manufacture of drain tile and building tile. The output of the plant is now 80,000 a day. If you are surprised at the multiplicity of tile roofs which you see as you tour over the length and breadth of sunny Florida, just register another bull's-eye for the business sagacity of Telfair Stockton for he provides practically eight-tenths of this permanent roofing material.

There was a certain tract of 220 acres adjoining the fashionable Riverside section of Jacksonville which the owners for many years refused to sell. Finally when they placed this property on the market, the price was so prohibitive that the real estate men shunned it — all except Telfair Stockton, who visualized attractive profits if the tract were developed properly. Despite that the project represented a million dollar investment, this man Stockton took it over and made it one of the greatest realty successes in the South.

The property fronted on the beautiful St. John's River. Mr. Stockton's problem was how to interest the prospective buyers in the lots far back from the waterfront. He did this by sacrificing \$110,000 worth



Careful Attention to Detail, as Revealed in This Doorway of the House Shown on Page 65, Has Been a Large Factor in Insuring the Ready Sale of the Homes Built by Telfair Stockton. The illustration shows plainly the interesting texture given to the stucco wall surfaces.



The Ornamental Entryway, the Casement Windows, the Lantern and the Balconies Are Part of the Studied Attractiveness of This Home, a Full View of Which Is Shown Below.

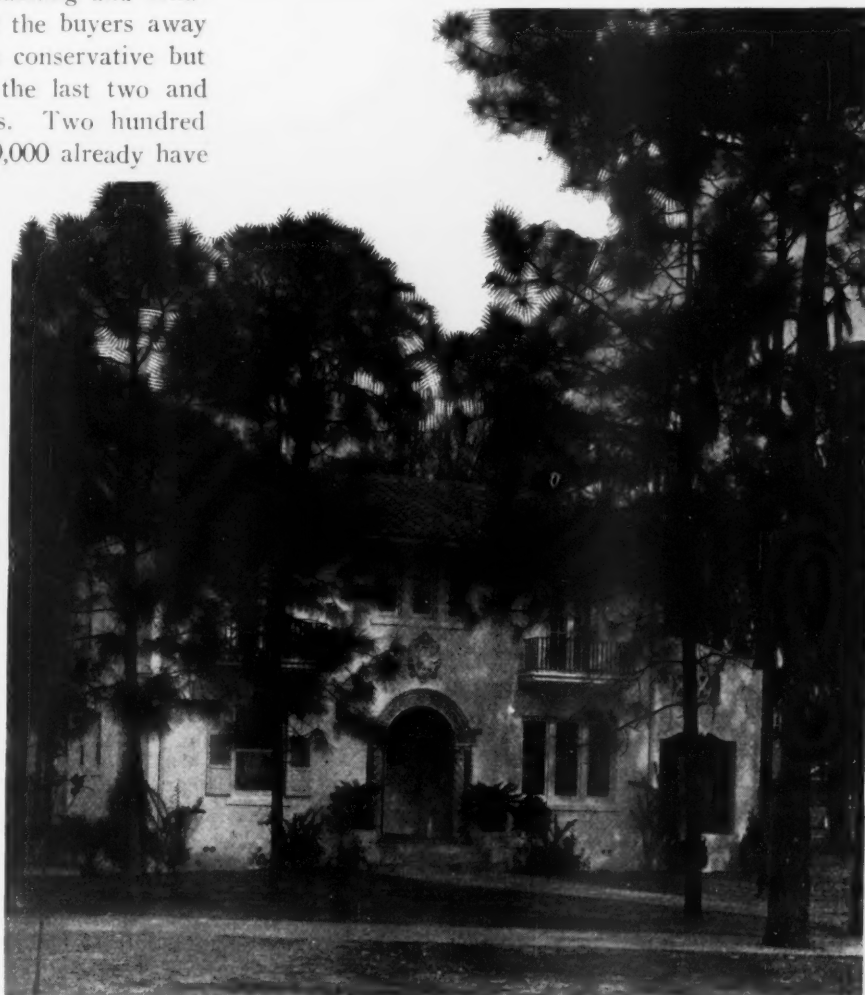
of lots in order that they could be converted into public parks to beautify the double-boulevard streets which he installed. By attractive planning and ornamental planting Mr. Stockton lured the buyers away from the river. His methods were conservative but his results were epochal. During the last two and one-half years he has sold 520 lots. Two hundred and ninety-four homes worth \$2,300,000 already have been built. The construction campaign is continuing at the rate of one house every two and one-half days. Three of every four of these houses are of tile and stucco construction and Spanish design. All of which is pretty good evidence that Telfair Stockton knows a real realty opportunity when he sees it.

Blues, greens, browns, reds and purples—every hue of the rainbow—you see in the stucco houses and bungalows which have made Florida famous. The curious color effects are secured either by incorporating certain mortar colors in the plaster or by painting the surface of the stucco with large brushes and the desired pigment mixture when the surface has dried. Pink and ivory with deep green trim are popular combinations, as are also mixtures of lavender, blue and mulberry with white trim. Pale green with polychrome is also a standard color combination. The majority of these stucco houses are built with red tile roofs.

The curious stucco designs are secured by expert trowel work in the application of the stucco or else by the adept use of gunny sacks or canvas rubbed and manipulated by hand over the surface of the plaster after it is applied and still soft so as to produce extraordinary impressions, scrolls, figures and designs. The curious borders and fringes of the exotic and tropical foliage that surround most of the Florida homes form a perfect setting for the queer and complicated designs which ornament the surface of the stucco homes.

It was difficult for a time to prevent leakage during the rainy season around the windows of the tile and stucco houses. Mr. Stockton after careful experimentation obviated this difficulty in his houses by furrowing a groove in each wooden sill so that the cement would settle

and harden there and thus leave no opening between the permanent construction and the wooden fittings.



The Setting of the Homes He Builds as Well as Their Construction Is Given Careful Consideration by Mr. Stockton When He Is Contemplating a Building Project.

Trend Toward Better Architecture Shown in the Nation's Buildings

Four Duotone Plates Presented of Notable Structures

By BERNARD L. JOHNSON

Editor, American Builder

IT is gratifying to note, in most cities of the United States, a trend toward better architecture. Many fine perspectives are being sent in to the Editor of AMERICAN BUILDER every month from all over the country. It will be our pleasure to continue presenting these renderings each month in our appropriate style of duotone lithography which is arousing so much favorable comment among architects and builders. Again, we want to thank our architectural friends for their co-operation.

Penn Athletic Club, Philadelphia, Pa.—When completed, it is said that this will be the "World's finest clubhouse." It will have all the comforts and conveniences it is possible to provide in clubhouse design, including a fine large gymnasium, hand ball courts, swimming tank, bowling alleys, billiard room, ballroom, promenade, lounge, library, card rooms, reading, writing and committee rooms.

The building will be of steel frame construction, faced with limestone, and will be located at 929 Chestnut Street on a site valued at \$1,250,000. The equipment, decorations and furnishings will be luxurious and the building, complete, will cost \$3,600,000. Plans and perspective were drawn by Zantzinger, Borie & Medary, well-known Philadelphia architects, and the contract has been awarded to the Thompson-Starrett Company. Excavation started October 6th and the building is expected to be ready for occupancy by November 15, 1925.

Women's Memorial Hall, Indiana University, Bloomington, Ind.—The Women's Memorial Hall, a woman's dormitory for the Indiana University at Bloomington, designed by Granger, Lowe & Bollenbacher, has for its theme the simple dignity of the Tudor Gothic period. The design will be executed in Bedford stone and will have a central tower four stories in height, with an east and west wing, three stories in height. The estimated cost of the building is \$400,000.

A frontage of 284 feet and a depth of 40 feet permits a convenient and comfortable arrangement of the rooms for the accommodation of 227 girls. On the first floor will be the living rooms, libraries and lounge rooms, as well as living quarters for the executives of the dormitory. The architects and owners have combined in their efforts to make this a real home for the girls.

Construction work on this building was begun in August and completion is expected December,

1925. E. A. Carson, of Logansport, Ind., is the general contractor.

The Jewelers' Building, Chicago, Ill.—This, the highest building yet planned for Chicago, is notable for the beauty of its design and will take front rank among the "skyscrapers" of the United States. The architecture is early Italian Renaissance and the symmetry and color tones are exceptionally pleasing. The exterior walls will be a light cream color with touches of polychrome terra cotta and the dome will have a finish of gilt. F. P. Dinkleberg of Chicago is the architect. The site will be one of the choicest in Chicago, with a frontage on three streets—the new South Water Street, Wabash Avenue and Holden Court. The main entrance will be from the boulevard level, or upper deck of South Water Street. The site measures about 140 by 162 feet and the building will be 42 stories—547 feet—from the foundations to the top of the dome. Site and building will cost \$10,000,000.

This building will have a novel feature of garage accommodation never before introduced in modern skyscraper construction—a garage section 23 stories in height which will be an integral part of the building and accommodate about 625 cars. Special elevators will be provided having sloping platforms, so that cars can be unloaded by gravity. At each floor, they will be handled by automatic appliances, eliminating the noise and fumes of gasoline motors.

The dining room, grill and club rooms of the Jewelers' Association will be located in the upper floors of the tower and will command an unobstructed view of city and lake from the highest level yet reached. Major J. T. Montgomery, representing the Jewelers' Association, is chairman of the building committee.

Terminal Warehouse, Los Angeles, Cal.—This is one of the latest freight terminals erected by the Central Manufacturing District in Chicago, Kansas City and Los Angeles. Unlike many freight terminals, its architectural treatment has given it a most pleasing appearance creditable alike to the district and to Frank Chase, Inc., engineers.

The building is of reinforced concrete with art concrete trim and is said to embody all the latest facilities in warehouse construction. The tower section is ten stories in height flanked by two wings six stories high and with a total floor space of 194,778 square feet.

ART SUPPLEMENT *of* NOTABLE ARCHITECTURE



PLATE IX

The PENN ATHLETIC CLUB, Philadelphia; Zantzinger, Borie & Medary, Philadelphia, Architects. This building to be completed November, 1925, will be the World's Finest Clubhouse.

The AMERICAN BUILDER, Dec. 1924

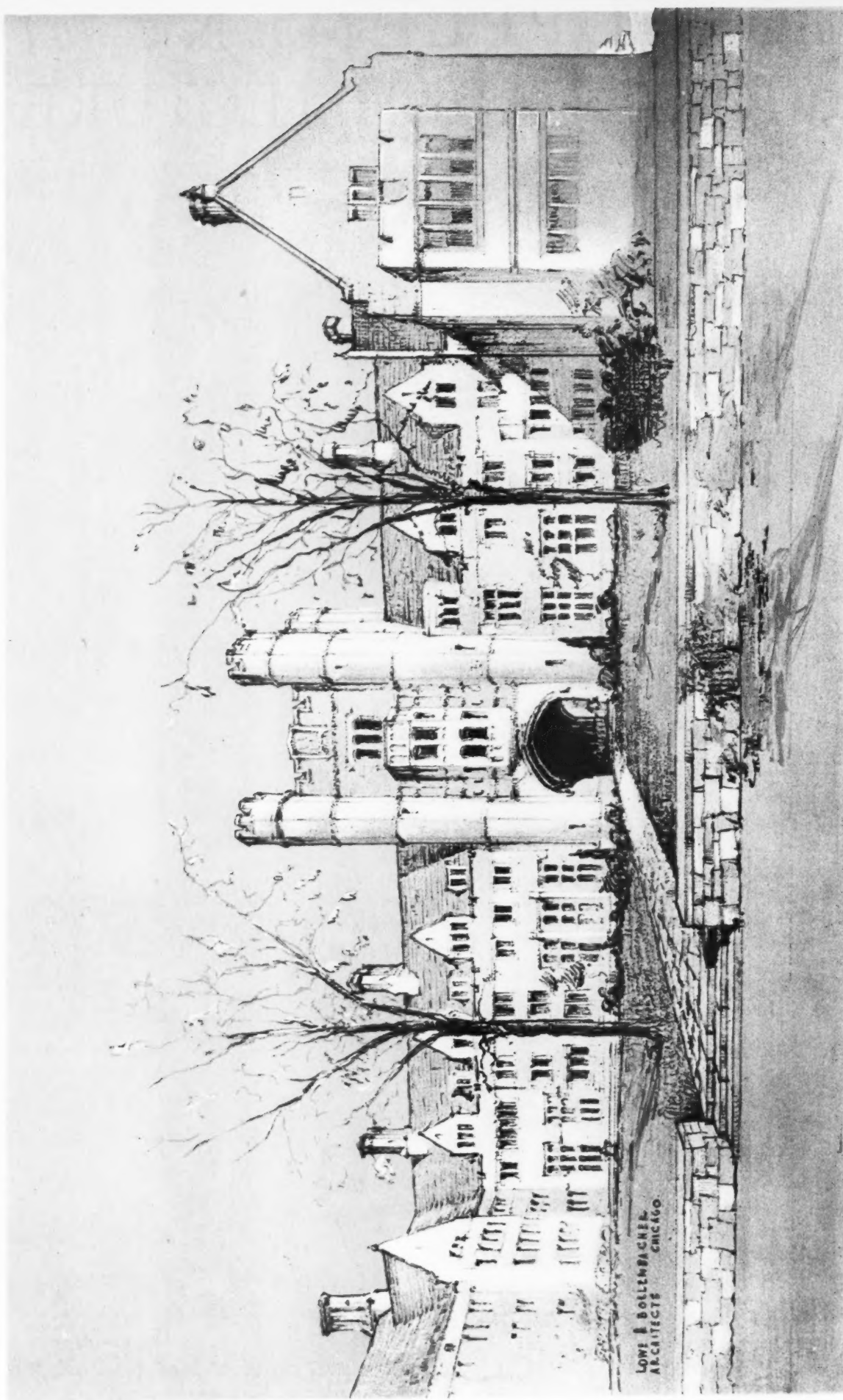


PLATE X

The Women's Memorial Hall, Indiana University, Bloomington, Ind.; Lowe & Bollenbacher, Chicago, Architects. This beautiful example of Tudor Gothic architecture is now under construction.

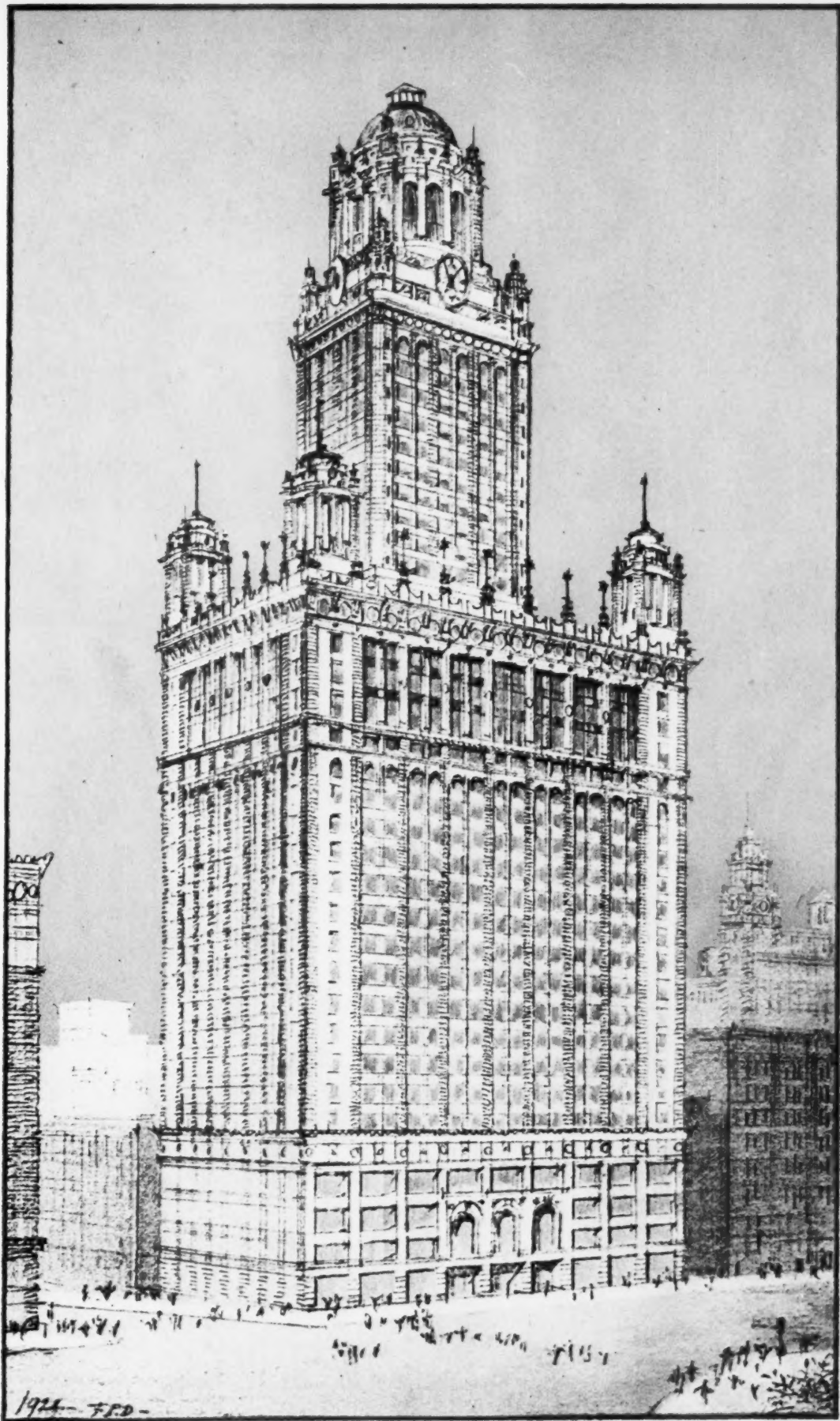


PLATE XI

The JEWELERS' BUILDING, Chicago; F. P. Dinkleberg, Chicago, Architect. This 40-story Towered Building will grace the new South Water Street Boulevard at Wabash Avenue.

The University of Michigan's Lawyers' Club

York & Sawyer, Architects, New York

By DAVID M. BRAMBLE

UNIQUE among the college buildings of America is the recently completed Lawyers' Club of the University of Michigan, designed by the architectural firm of York & Sawyer, New York.

Despite the fact that a large addition will be added to the building within the next few years, it stands today as the most beautiful example of university architecture on the Michigan campus. The entire structure was made possible as a gift to the state from William Wilson Cook, one of the leading members of the New York bar and a resident of Rye, Long Island. Mr. Cook was also the donor of the Martha Cook dormitory for women, given as a memorial to his wife.

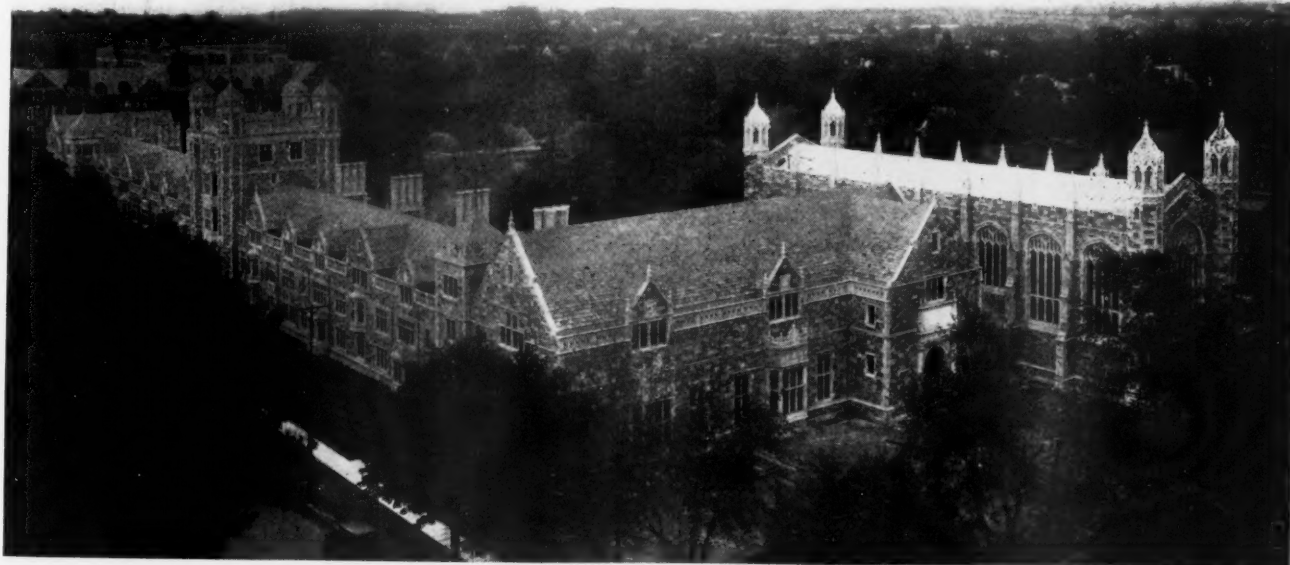
The purpose of the club, as well as the building in which it is housed, is likewise unique. In an article by Dean Henry M. Bates, of the Law College, published in "Chimes," a university publication, last spring, he said:

"The facts must convince anyone conversant with the history of legal education that when the whole project is completed and operative, we shall have an equipment and organization for the development of lawyers of high class—lawyers who shall be fitted to become leaders—never before attained in legal education. When we shall have completed our quadrangle, with the school itself in its new building, with the library outstanding among law libraries of the western hemisphere for its comprehensive scope, with the living

rooms available to judges and practicing lawyers who are members of the club, the opportunity for such



The Towers at the Main Entrance to the Dormitories Show the Collegiate Gothic Type of Architecture.



The Lawyers' Club, of the University of Michigan; York & Sawyer, New York, Architects. The picture was taken from the tower of the University of Michigan Union. When the structure is completed, within the next few years, the building will form a quadrangle, one-half of which is shown in the picture.

members to come here and study at their cases and to prepare briefs will be so unusual that a substantially continuous stream of visitors may be expected."

The building, located at the southwest corner of the campus, lends an air of distinction and beauty to the University grounds. The accompanying illustration may serve to give a fair idea of the grandeur and magnificence of the University's newest and finest building.

The present group consists of a dormitory accommodating 163 students, a dining room with seating capacity for 300, a fully equipped kitchen, and a club building with rooms for eight guests.

The dining hall, which is thirty-four feet wide, one hundred and thirty-eight feet long and forty-nine feet high, is in the collegiate Gothic style, built of solid masonry construction. The exterior wall is laid up with seam-faced granite of varied colors from the Weymouth quarries in Massachusetts, and is trimmed with Indiana limestone. The interior has an oak paneled wainscot ten feet, six inches high, while the wall above is in limestone. The roof is supported by nine heavy structural oak trusses which are beautifully decorated with carvings of eminent jurists. The floor

is laid in a design of Missouri and Tennessee marble. The great Gothic windows are filled with amber-colored cathedral glass imported from England, which gives the room a soft, pleasing glow of color.

The club building is designed in a more domestic style of the later transitional style. The exterior walls are also built of seam-faced granite trimmed with limestone, complying directly with the general harmony of the whole. The roof of the club is covered with heavy slate of varied colors, from the quarries of Vermont.

Perhaps the most beautiful room in the club building is the lounging room. Of generous dimensions, it is surrounded, on the interior, by an oak paneled wainscot over eleven feet in height, while a beautifully carved mantel piece lends beauty to the room. A special note of attraction is added by the circular bay window with its cathedral glass and metal casements. The furnishings are luxurious and in complete harmony with the rest of the room.

The dormitories—actual living quarters for the students—are laid out in a unit system, each having distinct and separate quarters for thirteen students. The first floor of each unit has two suites, each con-



The Great Dining Hall Is Perhaps the Most Imposing Room in the Lawyers' Club. Three hundred persons may be accommodated easily in this hall at one time. The oak wainscot is more than ten feet high and the wall above is of limestone.



The Lounging Room of the Club Provides an Exceptionally Pleasant Place for the Students to Spend Their Moments of Relaxation and for Informal Gatherings of Friends.

sisting of a study and two bed rooms, each room being of ample dimensions. Toilet accommodations are on the second floor, while on the third floor there are four single rooms.

Preference for the occupancy for 170 students have been and will be accorded to the classes of the Law College in order of seniority. According to Mr. Cook's wishes the administration of the building is lodged in a board of governors, of which the dean of the Law College and four faculty members, chosen by the board of regents, are the members.

Remarkable as the building is, it seems scarcely more remarkable than the conditions which had to be confronted and overcome before the project could be made possible. When word was definitely received by University authorities that Mr. Cook would make the project possible, it was necessary at once to secure adequate grounds for the construction. There was no available space on campus proper, and the city had been closely built in around the University buildings. The ground that was finally selected was harboring at the time, two fraternity houses, a church and two private dwellings. Complete arrangements were hastily made, and within the month all of the five buildings had been razed, and ground broken for the new Law Club.

Today it stands as the show place of the University of Michigan. Today it is potentially the finest building for the training of lawyers, to be found anywhere in the country.

But more than that—it stands today as a magnificent and compelling testimonial of the loyalty and love of one alumnus to his alma mater. That man—William Wilson Cook.



This Might Happen to You

WHILE removing a plastered wall of an old Colonial house in New England, the workmen discovered a board partition under the plastering. This partition had been papered with a striking, attractive design of wall paper. One of the workmen decided that this might now prove of interest to patrons who wanted an antique design of wall paper for a room having antique furnishings.

A portion of the boards showing the design intact was carefully removed, and later, on being sent for inspection to a wall paper manufacturer, was promptly bought by him.

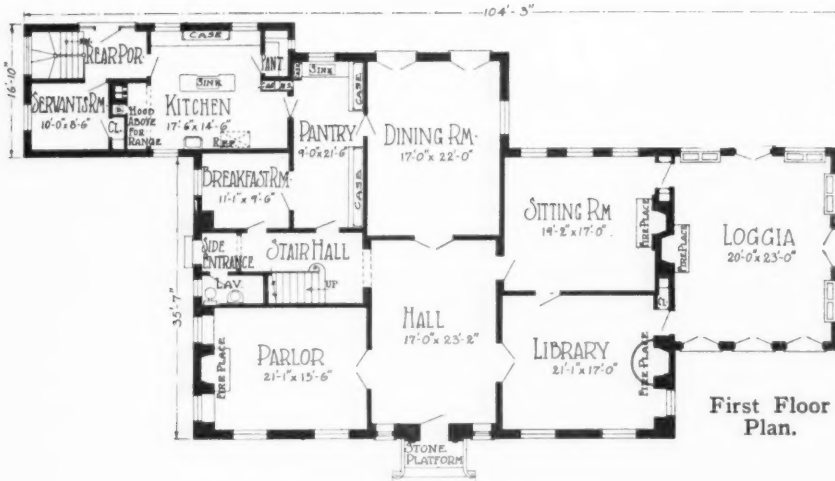
The design, which proved to be a lost one, was liberally paid for, and, in reproduction was displayed in the window of a store in Boston.—Mrs. A. F. DODD.

An Excellent Colonial

Barber & McMurray, Architects



Second Floor Plan.



First Floor Plan.

ONE of the most pleasing factors in the Colonial type of home is its adaptability to almost any environment found within the continental limits of the United States. And this is one of the things which has contributed much to the spread of this worthy type of home from the Atlantic seaboard where it originated to all parts of America.

Thus we find, in the home of Mr. Handley in Knoxville, Tenn., a home which would fit in well among the elms of some New England community of a hundred years ago, and the competent manner in which the architects, Messrs. Barber & McMurray, have handled the design reflects the craftsmanship of the artisans who originated dwellings of this type.

The interesting facade of the home is dominated by the doorway with its broken pediment. The white trim which contrasts so effectively against the brick of the home



The Home of Mr. Oscar Handley, Knoxville, Tennessee. Barber & McMurray, architects; J. M. Dunn & Son, builders. An interesting example of the New England type of Colonial dwelling in a southern setting.

has a pleasing application in the keystones above the windows. The fenestration is so done that it is difficult to realize the length of the residence, 104 feet, and the arched French doors of the loggia give a pleasant variation from the straight lines of the windows in the main part of the home.

The arrangement of the interior is unusual in that the stairway is not in the large hall, but is relegated to a separate stair hall, accessible from the side entrance, the main hall and the rear of the home. Beside the stair hall, the dining room, the sitting room, parlor and library may be entered from the hall.

It will be noted from the floor plans that eight fireplaces are built in the home, one of them in the loggia, and that four of the five bedrooms on the second floor have



The Symmetrical Paneling and Simple, Well Designed Fireplace in the Parlor of the Handley Home Form a Charming Background for the Attractive Furnishings.



The Dining Room of the Handley Home. The double doors at the left lead to the hall while the screen at the right is in front of the entrance from the pantry.

facilities for open fires. No doubt this arrangement allows the home to be kept comfortable during the spring and fall months without starting the heating plant and is a practical arrangement in the Tennessee climate, in addition to the attractiveness which the fireplaces always add to the home.

Three of the large bedrooms on the second floor have private baths, while the other two are served by a bath between them. The grouping of the two bedrooms and dressing room to the right of the second floor plan is interesting and worthy of study.

It will be noted that it is entirely possible to use the dressing room as an additional bedroom should this be required, although this would eliminate a private entrance to the largest bedroom in the home. A built-in ironing board is indicated in the bath.

Christmas At Home

By T. O'DONNELL

Copyright, 1924, by American Builder Magazine, Chicago

O Builder, make a picture, make me a plan to picture

A neat New England mansion or Spanish bungalow,—
Cement or brick or lumber, with rooms in goodly number,
And a green lawn like velvet, where tree shadows come and go.

I want it Christmas morning, must have it Christmas morning,

With lively pitter-patter across my bedroom floor,
The lovely lisp of children,—my happy little children,
That bring back (O, the joy of it!) my Christmas days of yore.

I want to tread the stairway—yes, tumble down the stairway!

To the hearth-full of stockings hung up the night before,
To see what Santa's brought 'em, (what Ma and I have bought 'em!)
On the Yule tree gift-laden, bright-branching from the floor.

I want what follows after, the breathless childish laughter,

O'er dollies and railways and, O Gee, a radio!
The wife and I together—good pal in ev'ry weather—
Our hearts brim o'er with pleasure that only home-hearts know.

I want to eat that dinner, Ma's home-cooked Christmas dinner,

With great big brown roast turkey and piping hot mince pie;
My eyes upon the dressing the while I ask God's blessing,
For kings within their castles are poorer far than I.

O Builder, hurry, build it,—don't wait too long to build it,

It can be great or simple, just so it is a home;
Rooms two or five or seven—no matter, 't will be heaven,
After years and years of renting, to really have A HOME!

This timely Home Building sentiment, written especially for American Builder, is freely offered the building industry for reprinting.
EDITOR.



WHO'S WHO IN THE BUILDING INDUSTRY

*A Department of Late New Photographs of
Men Who are Right Now in the Public Eye*



A. C. GAUEN
Of the Gauen Lumber Co., Collinsville, Ill., President the Illinois Lumber Merchants' Assn.
Blyth Photo



WM. FOUNTAIN
Of the J. Fountain Lumber Co., Appleton, Wis., President the Wisconsin Retail Lumbermen's Assn.
Stein Photo



G. D. ROSE
President Northwestern Lumbermen's Assn. and member of the firm Spahn & Rose Lumber Co., Dubuque, Iowa.
DeLonge Photo



M. A. PHELPS
Prominent Lumberman of Wahoo, Neb., President of the Nebraska Lumber Dealers' Assn.



W. R. COLE
Prominent Lumberman of Punxsutawney, Pa., President Retail Lumber Dealers' Assn. of Pennsylvania.



FRED L. LOWRIE
Of the F. L. Lowrie Lumber & Finish Co., Detroit, Mich., President National Retail Lumber Dealers' Assn.
Moffett Photo



ROY METZGER
Prominent Lumberman of Lebanon, Ind., and President of the Retail Lumber Dealers' Assn. of Indiana.
Dexheimer Photo



E. E. WOODS
Prominent Lumberman of Claremore, Okla., President of the Southwestern Lumbermen's Assn.



EDWARD V. PETERS
General Sales Manager of the New Jersey Zinc Sales Co., is the new President of the National Paint, Oil & Varnish Assn.



BLAINE S. SMITH
Of the Universal Portland Cement Co., Chicago, on Nov. 19, 1924, was elected President of the Portland Cement Assn.
Moffett Photo

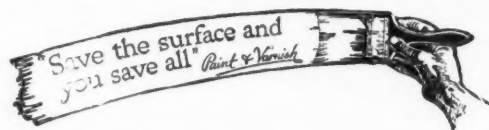


W. S. NURENBURG
In charge of the recently opened sales and display offices of the Wheeler-Osgood Co., Grand Central Terminal, New York City.
Moffett Photo



M. L. BURGESS
Secretary and Treasurer Marietta Manufacturing Co., Indianapolis, Ind., makers of SaniOynx.

SAVE THE SURFACE DEPARTMENT



Written, Illustrated and Edited by the Headquarters
Staff, SAVE THE SURFACE CAMPAIGN

Paint—A Good Will Maker for Builders

Rotting Wood Is Not a Good Basis on Which to Build Reputation

YOU men who are building houses, do you realize the good-will value of paint? Do you know that paint can boost your reputation, and that lack of it will undermine your business and retard your turnover?

It will. Paint will do all of these things and more.

Of course, paint is applied before a house is offered for sale, or turned over to the owner. That is not the point. Why it is used, where it is used and the colors which are used are what make paint a merchandising asset.

We have at headquarters a 2 by 10-inch timber that, in January, 1919, was converted into a horse to which stair treads were nailed. The steps it supported gave access to a back porch. It was newly cut lumber of good quality. It was sheltered from above by the treads; one face was close against the

stone foundation wall; the other face and the bottom were painted.

Before the second summer passed rot had so weakened this timber that the steps were unsafe. They were braced with 2-inch pieces. Twenty months later the owner of the house said: "It was a case of a bad fall for someone or new steps; for the horse, the braces and the treads were so decayed that they could be broken down with the fingers."

This owner blames the builder for using "rotten lumber." He feels as if he had been cheated. He believes "all builders are of the same ilk." He spreads his resentment impartially over the entire clan, and he misses no opportunity to air his grievances.

Now we both know there are those who deserve the reputation this owner attaches to all builders, but that is another story. The interesting part of this incident is: Had all six surfaces of that step-horse been painted before it was put in place, the builder would have conserved his reputation.

"Costs more than it is worth to prime pieces like that." Is this your feeling? What of good-will? Good-will is an intangible thing that the shrewdest merchandisers in this country spend millions of dollars a year to cultivate. They rate it as their most valuable asset.

The houses you build are your trademarks. The signs you erect on your operations are your pledges of fair dealing and your bids for patronage.

If those to whom you sell are forced to replace window and door frames, porches, and steps within a very short time simply because such pieces were not on all six surfaces painted, or were only half painted, as in the case of the step-horse, what will they say when their friends ask them about the contractor who built their houses? What would you say if the situation was reversed?

If the doors stick and shrink and refuse to lock because bottoms and edges have not been made moisture proof with paint or varnish; if standing trim warps, splits and "crawls" because it is not prop-



Unpainted Millwork Absorbs Moisture and Is Liable to the Attack of Wood-Destroying Insects. Rains may come, ground water may be absorbed or moisture from drying masonry or plaster may be taken up. Either moisture or insects will quickly destroy woodwork and the owner will blame the builder for costly replacements. A builder is manufacturer, merchant and consultant in one and, therefore, particularly in need of the good-will of his customer.

erly finished; if tin and shingles soon leak and if leaks destroy decorations and furnishings; if gutters and down-spouts require early replacement—if one or all of these things happen, who will be blamed? The builder!—and in no uncertain terms, either.

The builder is both merchant and manufacturer. He is also a consultant—an expert—and therefore good-will and favorable reputation are especially necessary and valuable to him. On the other hand, the home owner is a layman and does not realize the damage weather works. He is not always intelligent in placing blame for failure. Thus, the good name of the builder is entrusted to one who is uninitiated; saving a few pennies on paint and labor is apt to be a boomerang, and boomerangs are dangerous.

An unpainted horse is not a good support for either a step or a reputation.



Here Is a Picture of the Four-Year-Old Step-Horse. After two years' service the two by ten timber was so rotted that braces were necessary. Two years later these also rotted. Had all surfaces been painted the steps would have served for years.

The speed and intensity with which life is lived today makes it necessary, very often, to cut corners. In house building, painting is the final step. Financial matters may urge the speediest completion, or owners may be clamoring for possession; several reasons may suggest a little last minute "trimming" on the painting. While it may not be necessary in all cases to follow the dictates of the very best practice, it is a fundamental error to undermine prestige and integrity by failing to give strength where strength is required.

Strength is required and protection must be given when wood and metal are exposed to weather. Just as sure as such members are left improperly protected, they will rot or rust. And when this happens the rot fungus eats the wood and the builder's reputation at the same time.

Decorative Techniques for Walls

Charming Effects for Every Room Are Simply Achieved with Paint Applied by Recently Developed Methods

WELL-TO-DO people tell us one of the greatest pleasures of wealth is the ability to purchase originals and the satisfaction that comes with the possession of things no one else may possess. It is gratifying to own an original masterpiece by a great painter or sculptor, rare porcelains or silver. We all know this feeling.

Few home makers realize it as yet, but it is a fact that every room may have entirely original decorations, which have the charm of exclusiveness. The painting techniques which make this possible are rapidly coming into vogue because of their good taste and highly decorative qualities, and because of the almost endless variety of patterns and color combinations they offer for selection.

Paint of itself possesses advantages which can be had from no other decorative medium. One of these is color range. By the simple process of mixing pigments any desired shade or tint may be had. Another is delicacy of finish, or harmony, through the blending of all features within or without the house. Another might be termed "sparkle." Suppose we have an interior which is perfectly correct yet lifeless; a little paint of the right color on the moulding will supply the needed note. In other words, the decorator has a medium in paint that may be used in color and volume as or when needed to produce the final result.

Now we have gone a step further. We are taking two or three colors and combining them to produce interior effects. It is this newer technique that opens the road to individuality; every home may reflect the personality of its owner by means of distinctive and original treatments.

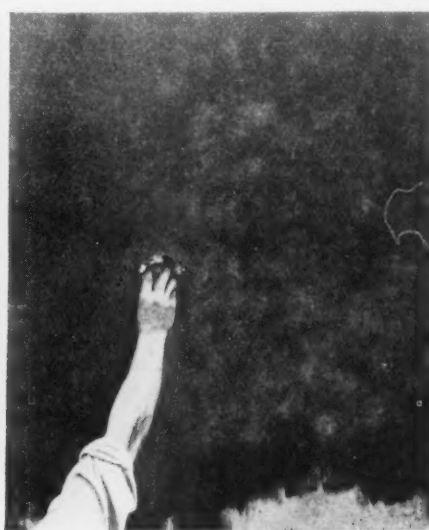
One of these new painting methods, popular because of the multitude of effects that may be obtained with it, is the two-tone figure finish which is

quickly, easily and economically produced. One decides first which two colors are desired. These may be different shades of the same color, related colors such as green and yellow-green or they may be harmonizing colors such as yellow and blue-violet.

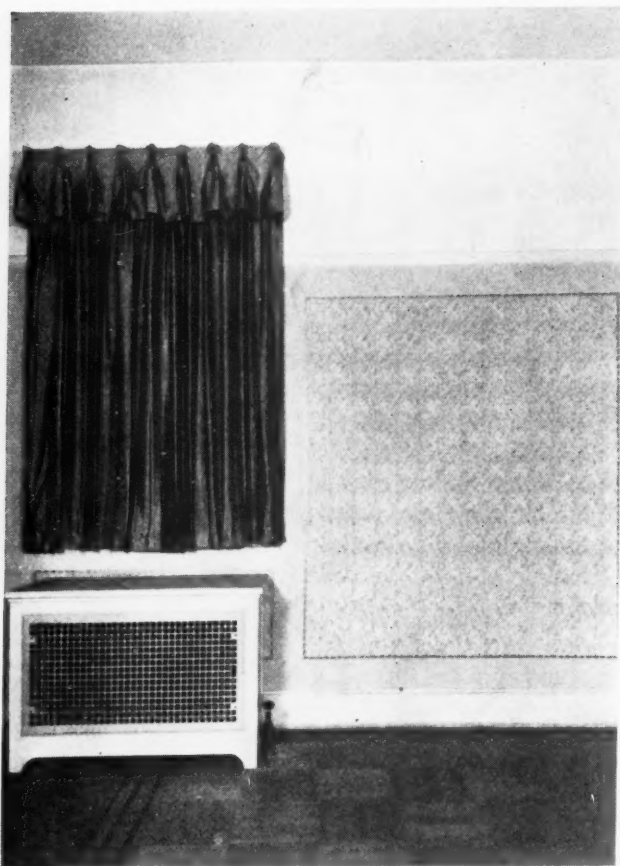
The finish is produced by painting the walls with one of the colors. When dry the second color is applied over the first in sections about four feet wide, then a large sheet of newspaper, crumpled into an elongated wad and held in both hands, is placed against the wet paint and rolled over and over down the wall. In this manner portions of the wet coat are removed so that the color of the under coat shows through. When the four-foot painted strip has been treated, another strip is painted. The process is continued until the



This Photo Shows How a Two-Tone Effect Is Produced by Using Paper Crumpled Into an Elongated Wad. After the ground color is dry the finishing color is applied and portions of the wet paint are lifted off by the paper allowing the ground color to show through.



A Two-Tone Effect Produced with a Rag Similar to Blending. Great beauty, freedom and originality characterize rooms done in the newer decorative painting techniques. These methods are popular because of the multitude of effects that may be obtained with them.



A Pattern Effect Secured with Washable Wall Paint. Stiles finished in a flat tone, moulding done with a stencil, and panel finished in a two-tone effect slightly darker than the background color, by means of a sponge roller. The sponge after being moistened in water and squeezed dry is filled with paint and rolled down the surface to be finished.

room is finished. The resulting design is free from formality, original and spontaneous. Somewhat similar effects may be secured by using a coarse cloth or a sponge instead of the paper.

Extremely important from a dollars and cents standpoint, when it comes to redecoration, is the fact that a single coat will give a new color scheme. In this way, at very small cost, a room may be easily redecorated and the result will be a three-tone finish, the fresh paint being applied over the old two-tone effect and rolled as described. Cracks, spots and stains are thus removed without doing over an entire room.

Beautiful two-tone effects of a class sometimes called stipple work recommend themselves highly. Stippling, strictly speaking, is the obtaining of light and shade graduations by means of dots. The points of color are usually applied by striking the surface with brushes wet with various colors and, as adjacent colors are thus blended into one another, the mottled effect produced has come to be known as stippling. Two-tone stippling, therefore, is the blending together in this way of two or more colors which produces an all-over mottled effect.

When we speak of stippling a painted wall the term means striking the paint while wet with a stippling brush, giving it an interesting rough or pebble-like texture which eliminates brush marks, although modern flat drying paint vehicles do this automatically and stippling on this account is not necessary. For two-tone mottling, colors widely separated in tone should be selected as they provide the most effective play of color.

A light underbody and a dark finishing coat is an excellent choice for large rooms or upon large wall spaces. In small rooms it is preferable to use a dark undercoat with a lighter finishing coat. Three-color finishes are attracting much attention. After the colors have been decided on the ground

coats are allowed to dry. Then a sponge is dipped in the second color and is tapped all over the wall but not covering it. The third color is applied in the same manner with another sponge. Both tints can be applied one after the other without waiting for the preceding coat to dry and a room can thus be finished very quickly.

Along with these methods should be remembered the more familiar two- or three-tone effects obtained by tapping the wet finishing coat with a ball of paper or fabric so as to lift some of the wet paint and thus expose the dry undercoat. The effects secured are quite different from those produced by rolling the paper and are equally pleasing.

Aside from the novel beauty inherent in such methods there is much to recommend them from a practical standpoint. Beyond their durability, sanitation and washable character, painted walls are easily and quickly cleaned. Fire cracks so bad that no plain coat of paint will hide them do not show through the two- or three-tone figured design.

An interesting variation of stippling, recently perfected, is produced by the addition of several harmonizing colors to the finish coat. The paint is not thoroughly mixed before being brushed on. When dry, spots of color, of irregular size and spacing, sparkle through the finish coat in an interesting way.

All of the above methods may be effectively used in panels, areas between panels being finished in a flat color. Stenciling combines very well with two- or three-tone finishes. The shaded wall, light at ceiling and darker at floor finished with a stipple brush is always in good taste and has the effect of making the low ceiled room appear more spacious.

Mottling, blending and the so-called Tiffany finishes are charming. Dining rooms and large living rooms look especially well in such treatments. After the walls are ready for finishing various colors are applied and blended, partially or thoroughly as preference dictates, and the result is really beautiful.

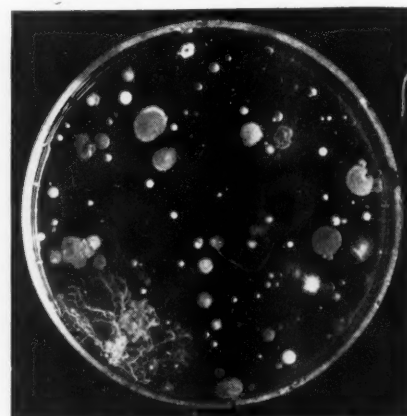
Many decorators recommend the application of a thin coat of starch size after the newly painted wall is dry. This is invisible and may be removed after a few months with a cloth wrung out of warm water. All dust and dirt comes off the wall with it. It makes cleaning easy, it preserves the finish and keeps wall areas absolutely sanitary. And let it be said here, the sanitation of the painted wall is a strong point in its favor. The starch size is cheap and easily applied.



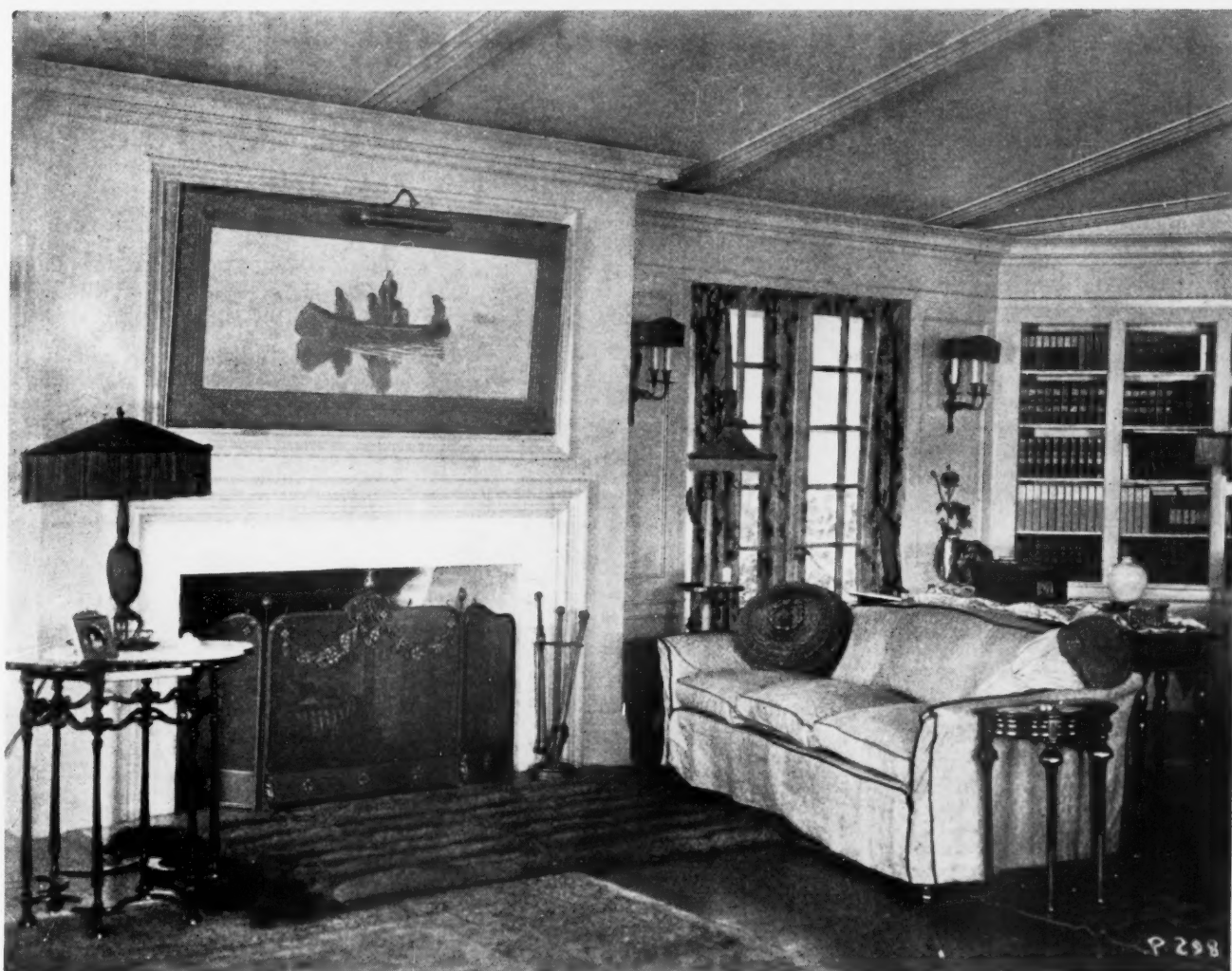
Sanitary Value of Wall Paints

Rough Surfaced Walls That Absorb Moisture and Hold Dust Are Menace to Health

"I N a lying-in hospital of which I have knowledge, there has been, in a given period, more than 100 cases of puerperal fever, with a high death rate. After the walls were painted it was noted that, in a similar period following cases of puerperal fever have become almost nil. Undoubtedly, paint was largely responsible for this saving of many lives."



This Photo-Micrograph Is a View of a Gelatine Culture, Washings from Unpainted Wall Showing Bacterial Growth. The value of the painted wall is found in its smoothness and the fact that it does not absorb moisture. Porous, rough surfaced walls absorb moisture and retain organic matter (dust), thus providing the two elements necessary to support germs.



The Charm of the Painted Wall Is Well Illustrated in This Living Room in the Home of Mary Pickford at Beverly, Calif. The walls are paneled and finished in old ivory.

This statement, made by Dr. Max C. Starkloff, who has served the City of St. Louis for thirty years as health commissioner, illustrates the very close relation which exists between paint and sanitation.

People want wall sanitation and the more they learn about germs the more they want it. The area of interior walls is large and therefore there is considerable possibility of infection from this source unless these surfaces have a sanitary finish.

Many builders, dealers and painters are stressing this point in their selling, and more and more architects are realizing that they are serving the best interests of those who employ them when they recommend washable wall paints.

Sanitation is but one consideration. Decoration is of great importance because most of us appraise values by appearances. Wall paints come in all colors and with the variety of finishing treatments—especially the new two-toning, spray and lace stencil techniques—give any desired effect a person can wish.

In an effort to collect specific data on the rate of growth of colonies of dangerous bacteria on painted and unpainted wall surfaces, an elaborate series of tests was conducted. The results definitely established the fact that when wall surfaces are contaminated the source of the danger may be removed by washing, if the wall is painted. They also show that infected surfaces may be made sterile by painting.

The reasons why the painted wall is the sanitary wall are not far to seek. In a scientific paper read recently

before a convention, Henry A. Gardner, director, Institute of Paint and Varnish Research, Washington, gave them as follows:

"A wall of glazed, vitreous tile is superior to any other from the sanitary standpoint, because of its non-absorbent, washable character. Bacteria can be deposited on tile but cannot grow, because there is no moisture or organic media to support reproduction. The surface is absolutely waterproof and so smooth that organic matter can gain no foothold.

"Next to tile, which is of course too expensive for ordinary work and usually lacking in the desired color values, a painted surface is most satisfactory from the standpoint of waterproof character and smoothness of surface.

"A rough or even a hard-surfaced cement or plastered wall of any kind, a wall made of wood or pressed or formed paper board, or of any similar untreated construction is porous. Moisture may be absorbed rapidly, and retained for long periods. Such surfaces, moreover, contain small craters in which floating organic matter may be deposited. Because such walls cannot be washed, this organic matter may not be removed. Consequently there may be present these two factors—moisture and organic matter—that are required for the growth of bacteria. The value, therefore, of oil or varnish paints is in forming a waterproof film on any of the above mentioned materials of construction, and, in so doing, to make a smooth surface that will not afford a resting place for easily available organic matter."

Popularity of Cellarless Houses Due to Lower Building Cost

Saving an Average of 15 Per Cent of the Building Cost, This Style of Building Will Bring New Purchasers Into the Market for Homes

MANY thousand homes have been built during the last four years and yet there is a housing shortage for those who cannot build at present high cost levels.

Of the three factors governing building costs—labor, material and design—the latter is the one element which can be controlled. Human ingenuity is at work on this problem and modern homes at a modest cost may soon be within the reach of all. A recent development cuts about 15 per cent off the cost of building a small home and yet provides modern comforts. It is called the "cellarless house," but is far different from the cellarless house of old.

It is certain that the first houses built had no cellars under them. Nevertheless, the cellar is an ancient institution, principally associated in medieval history with wine storage and dungeons.

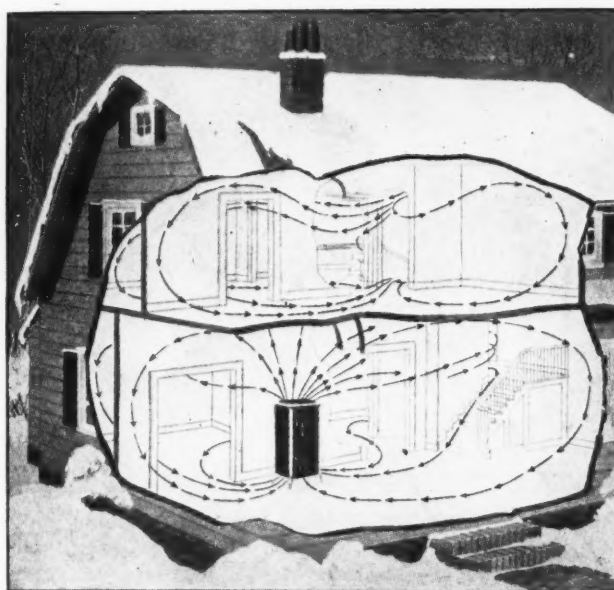
So far as the modern cellar is concerned, it may as well be admitted at the outset that it is useful under certain types of structures. But, for the man who

wants to economize on construction costs, it has been found that the cellar may often be omitted to advantage with a great saving in the cost of the house. Cellars are usually installed because it has been considered necessary to provide a place for the heating plant. Many of the cellars are dirty with soot and ashes—mainly a storage place for rubbish. They are often damp and insanitary.

The cost of a cellar varies with the depth and, it might be added, the lower, the higher. For the man who wants to cut down his construction cost, why not omit the cel-

lar? A laundry room above ground is far more convenient. The room above ground has full daylight, in place of the half light of the basement. The housewife saves many a wearisome trip up and down stairs when the laundry is on the kitchen level, which also applies to the heating plant above ground.

Heating manufacturers have recently placed on the market several types of heaters so compact, well



Cutaway View of House Showing How a Warm Air Heater, Placed in the Living Room, Circulates Warm Air Throughout Every Room.



Special Hallway Location for Heating Plant Provided in Cellarless House Design. Note the openings left for free circulation of warm air at ceiling level.

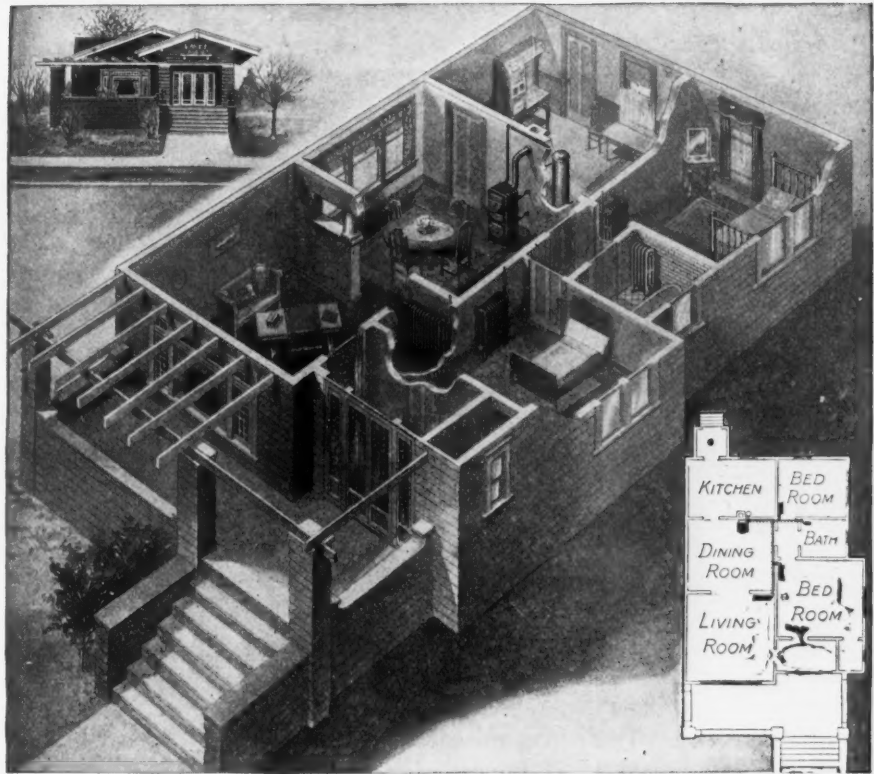
designed and finished that they can be placed in the living room or any other room most convenient. They furnish real comfort and are attractive in appearance—about as far from the old-fashioned stove or boiler as could well be imagined. There is no parboiled-on-one-side and chilled-on-the-other feeling with these heaters. They give the modern sense of comfort which comes from an even temperature. They are remarkably clean, too. All joints are made absolutely tight, so that there can be no escape of soot or ashes into the room and the flue connection is scarcely noticeable.

Some of these heaters are made with sufficient capacity to heat two-story houses but they are designed especially to serve the smaller type of building. The hot water type will take care of a maximum of between 500 and 500 square feet of radiation; the warm air type will heat about 8,000 cubic feet of room space. The hot water type has one great advantage, in that it can be placed in kitchen or furnace room at the back. From here it will distribute its heat evenly to every radiator in the house. If the living room pro-

vides the best location for the heater, it is still possible to conceal the expansion tank by placing it where it will drain into bathtub or sink in bathroom or kitchen. The radiators are identical with those used in any hot water installation and present a fine appearance. In fact, these miniature hot water heating plants are complete in every detail.

The warm air heater for cellarless homes is radically different from any other form of warm air heater although it makes use of the same principle as does the warm air furnace—a constant circulation of air around the heater and through the rooms. It is desirable to place it in a central location. This is a feature which should be considered in the design of a cellarless house so as to give the greatest possible efficiency. For instance, a bungalow floor plan is shown herewith having a central hallway of extra width with chimney flue alongside designed to accommodate one of these heaters. It will be noticed in the floor plan for the two-story cellarless house that the heater is placed in the living room adjacent to the stairway so that there is a free circulation both up and down stairs.

The graceful design and handsome finish of these warm air heaters fits them for use in the living room. One make has a vitreous enamel finish grained like mahogany and bears considerable resemblance to a large cabinet phonograph. This outer casing sur-



Illustrates a Simple and Economical Arrangement of Pipes and Radiators for Hot Water Heating in a Two-Story Cellarless House. The radiator-boiler heats the kitchen.

rounds the heater but is open, top and bottom, so that it draws the cold air off the floor, heating it and causing it to expand throughout the house. An even temperature is thus maintained throughout the rooms. The cost of one of these heaters is about half that of a warm air furnace and, therefore, adds considerable to the saving effected by omitting the cost of the cellar.

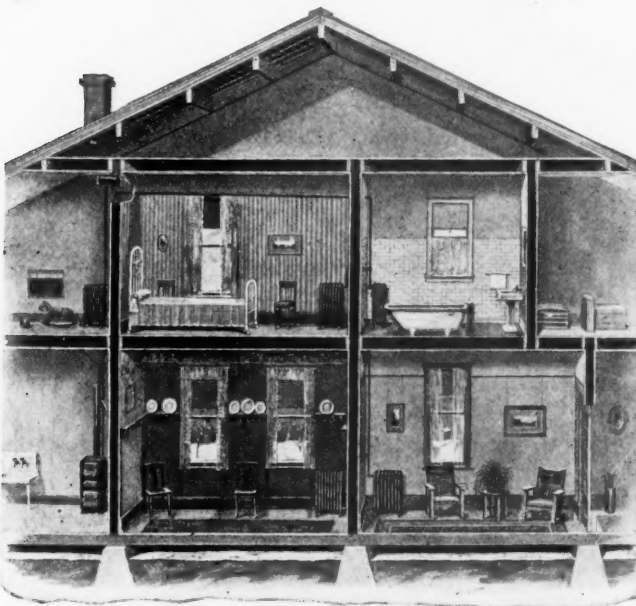
One builder arranged an ingenious plan for auxiliary fuel storage alongside one of these heaters. He designed a small coal bin under the living room window seat with a hinged door to the outer air, through which the bin could be filled—much in the fashion of outside icing for refrigerators.

Both types of heaters have done much to popularize the cellarless house idea and assist owners in avoiding the expense of cellar excavation and construction.

The saving effected from omitting the cellar varies, of course, with the size of the house and local conditions, such as the nature of the soil and local prices of labor and material. Every builder knows that it costs more to excavate in clay than in sand and also that some owners would be content to have homes resting on piers or posts while other would insist on footing and foundation walls. It is essential that this footing should be placed below frost line; this varies from 2 to 5 feet in various parts of the country and there is a corresponding difference in the cost.

It has been claimed that omitting the cellar will effect a saving of about \$700.00. This is quite possible—depending, as stated, on local conditions.

One strong advocate of the cellarless house is Mr.



This Typical Bungalow or Cottage Is Easily Heated by a Small Amount of Piping and Radiation. The boiler itself is little larger than a radiator but effectively heats the dining room.



There Is No Cellar Under This Bungalow, Recently Completed in Sacramento, California. When shrubbery, grass and flowers cover the grading, this will be an attractive home, economically built.

Ernest Flagg, well-known architect, who designed the Singer Building, New York, and other notable structures. Mr. Flagg designed a number of such houses. In one of them, the furnace room was housed in a wing on one end and the garage in a separate wing on the opposite end. There was no cellar and no attic. The immediate popularity of the cellarless house, however, is for a smaller and less pretentious type.

In weighing the advantages and disadvantages of omitting the cellar, the saving to be gained is a vital consideration. Inasmuch as costs vary greatly in different sections, we shall not attempt to show a detailed estimate in dollars and cents. It will probably be helpful, however, to consider the items which can be eliminated with the cellarless house. These are: Cellar excavation; footings and foundation walls (if

piers are used); cellar floor; basement door, casings and hardware; basement window casings and sash; basement stairway; extra cost of heating plant in basement; cellar drain; extra piping and plumbing.

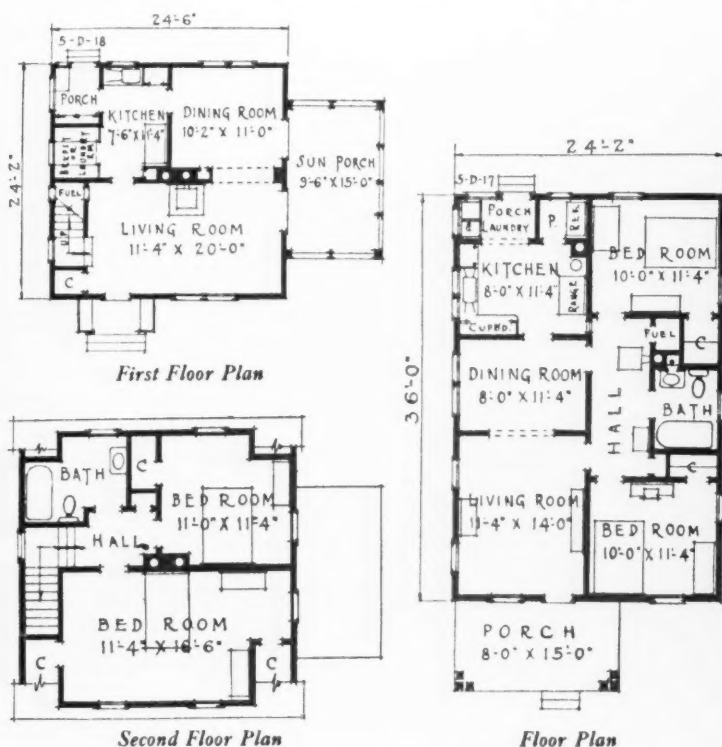
In order to arrive at a correct comparison, it is, of course, necessary to offset against these items the corresponding items required to support the weight of a cellarless house. If foundation walls are used, there will, of course, be trench excavation for the footings and foundations. In New England and the Middle West, this would need to be at least 4 feet deep, in order to get below frost line. Then you would also have the height of foundation walls above this footing.

Very few builders advocate setting a house on posts and on concrete piers only in case they, too, are set below the frost line. Tabulating these items, they would be: Excavating; concrete piers; chimney footing; beams or runners between piers; closing in foundation; floor insulation; fuel or other storage space above ground.

Most basements are 7 feet or more in height, so it will be fair to estimate cellar walls to this height, offset against which we have included an item to close in the foundations of the cellarless house.

As before indicated, one of the main items of saving in the cellarless house is the smaller and more compact heating plant which can be used and the saving of cellar heat-loss. The former is a saving in first cost and the latter should be considered along with the fuel

(Continued to page 139.)



These Floor Plans of Two Cellarless House Designs by the Architects' Small House Service Bureau Show Recommended Placing of Warm Air Heater in Bungalow Hall and in the Living Room of Two-Story House.



This Two-Story Cellarless House Would Look Much Better on Lower Ground with the Terrace Close Up to the House and Used to Conceal the Wall Enclosing the Foundation Piers.

An Apartment for the Lakeshore

The Tudor Manor, Leichenko and Esser, Architects, Has Many Features Especially Suitable for Its Waterfront Location

MUCH of the summer life of those who live on the lakefront in Chicago revolves about the water and the recreational facilities it affords. And in designing the Tudor Manor, on South Shore Drive and East Seventy-sixth street, Chicago, Liechenko and Esser, the architects and engineers of the building, took full advantage of this fact.

The apartment contains 36 apartments of from three to five rooms and the excellence of the architecture is shown in the illustration below.

The unusual features are shown in the floor plan of the English basement, where it will be noticed that a canoe room is provided, and what is more important, rooms with showers and lockers where, in separated rooms, men and women may change to swimming attire on going to the lake and change back again after their shower without tracking up the apartments.

Other attractive features are the rooms providing space for baby cabs, the recreation rooms and play room.



A Canoe Room and Locker Rooms with Showers for Bathers, Play Rooms and Storage for Baby Cabs Are Provided in This Apartment Basement.



A Typical Floor Plan of The Tudor Manor Shows a Typical Arrangement of the 36 Three to Five-Room Apartments.



The Tudor Manor, South Shore Drive and East Seventy-Sixth Street, Chicago, an Excellent Example of High Grade Apartment Building Design.



HOMES in COLORS

Good Design Built-in Pays Big Dividends— But Costs Nothing

By WM. A. RADFORD

President and Editor-in-Chief of American Builder

TWO houses that we know of were built about the same time and about the same size; the location of each was equally good; the same kind of material and workmanship went into each. The building cost of the two was practically identical.

Within a year both houses were put on the market and sold. One brought \$12,000, the other \$16,000.

Why the difference, you ask.

Why did one of these houses—no bigger, nor better built than the other—bring a third more money when placed on the market?

Good looks—style—right proportions!

There was the answer.

One of these houses had been thoughtfully planned by a good designer, and expert in home architecture. The other was just a house—built without benefit of architectural guidance.

No extra materials were required to produce the pleasing effect of the better designed house. Indeed, less of ornament was employed than fell to the lot of, and was tacked onto, the other. Harmony was produced rather by the use of correct proportions, the proper placing of doors and windows, and by simplifying—by *leaving off* ornaments.

The money which this skilled designer saved by leaving off needless ornament, and by planning his floor spans and other dimensions to use stock sizes of lumber, gave a substantial fund which was then invested in some of those little specialties and refinements of modern home building that mean so much to the present-day home builder and to his wife and family. This money was enough to provide extra built-in cases in the kitchen and pantry, and a couple of extra clothes closets, equipped with space-saving, telescopic garment hangers; also enough for special quality doors of distinctive design throughout the house, besides door and window hardware a little better than ordinary, and an extra number of electrical convenience outlets in every room. Lighting fixtures of special attractiveness were also provided.

All of these extras were paid for by savings made

by the careful planning of the house itself. They added value, which combined with the more attractive appearance and the greater convenience of the home, made it sell for a third more.

Many Similiar Examples

The above is a fair and typical example of many home building experiences we have come in contact with. Building plans and good architecture save money and add to sales value. Complete working plans and specifications in detail give an exact job to estimate and accordingly the figure is usually close. From our own experience we are firmly convinced that good design built into a home is one of those rare things in this world that pay big dividends but cost nothing. Always build from complete working plans and have your specifications worked out fully and in detail before you break ground.

The home designs in colors every month in the *AMERICAN BUILDER* will give you a multitude of good ideas and suggestions. These homes have been designed in harmony with the best work of skilled architects and builders all over the United States. As presented here in colors by our own artists and architectural staff these designs have the advantage of being fully worked out with the house placed in its ideal setting of shrubs, trees and flowers just as you would want your new home to be. It takes an expert to see in a set of working drawings just how the finished structure will appear. Rough sketches or working plans are hard to visualize, and sometimes mistakes are made. "It didn't come out just the way we thought it would," is an expression we often hear where homes are built without complete plans and a perspective sketch.

But with these designs presented on the following sixteen pages there is no question about how the house will look.

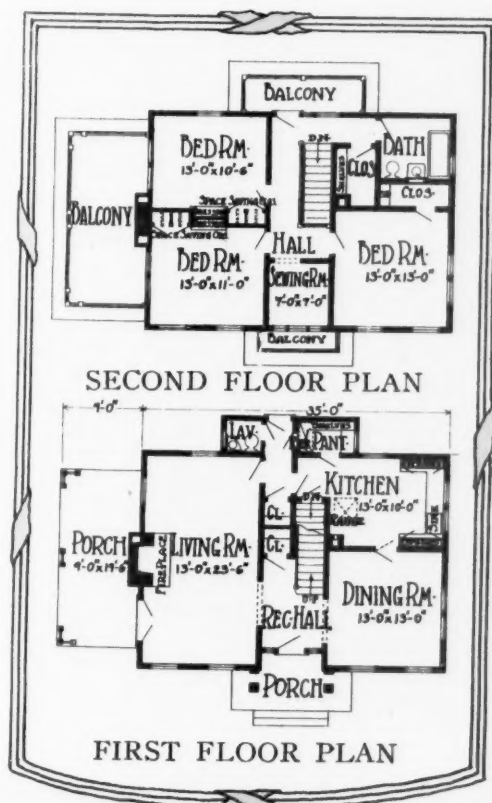
Suggestions for interior decoration are also presented, and this month again we are embellishing these home designs with historical sketches showing various interesting and important episodes in early American history. These will interest both young and old.

Make free use of the suggestions and ideas contained in these designs; and for details of building materials, equipment and home conveniences that will be needed to build, finish and furnish these homes consult the *AMERICAN BUILDER* advertising pages. You will find them a gold mine of timely assistance to every home builder.



The CAMBRIDGE

CAREFUL design, worthy of the Colonial type of home which it represents, is a large factor in the beauty of The Cambridge. This roomy, six-room home is entirely practical and makes economical use of all of the floor space. A suggestion for panelling the stair hall is shown in the illustration.

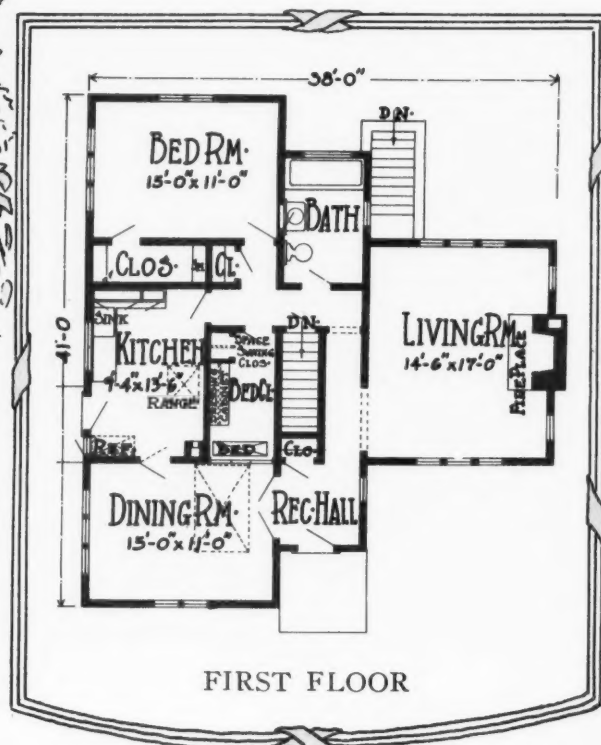


The Boston Tea Party, Dec. 16, 1773



The CLAREMONT

APARTMENT house efficiency in a small home is a practical feature of The Claremont and one which will help bring the cost within the reach of the small family of good taste and moderate means for whom the design is intended. Through the use of a disappearing bed and a small dressing room, equipped with a built-in dressing cabinet and space saving closet, the living room may be made an attractive bedroom when required. An interior for the dining room is suggested in the illustration.

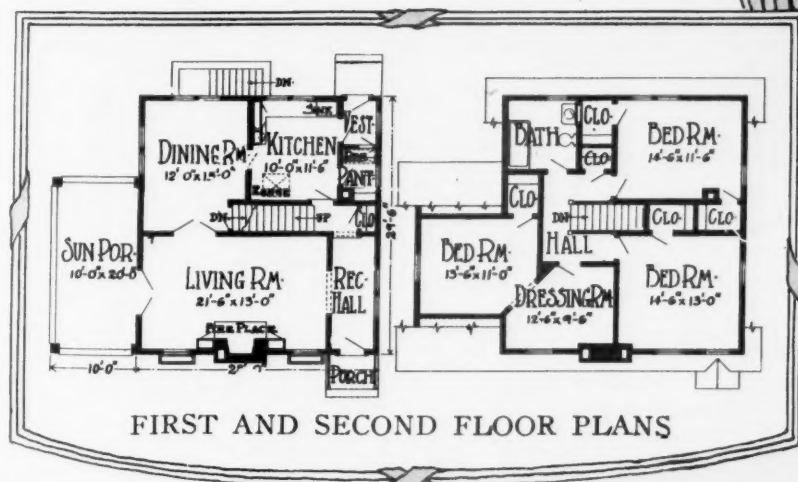
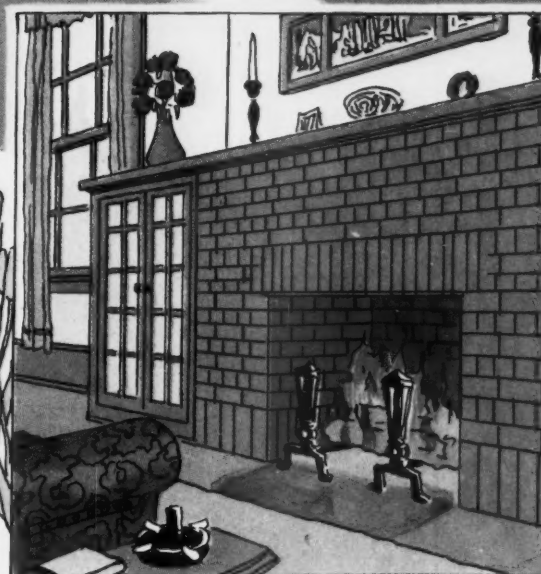


Gen. Wolfe Scales the Heights of Quebec, Sept. 1759



The CUMBERLAND

THE wide, white clapboard siding, the prominent fire-place chimney and the interesting roof of The Cumberland combine to make it an unusually attractive design. On the first floor are the living room, the dining room and the efficiently arranged kitchen. On the second floor are three unusually attractive bedrooms. The illustration gives an idea of the attractiveness of the book case flanked fire-place in the living room.



Col. Washington Captures Fort Pitt, Nov. 1758

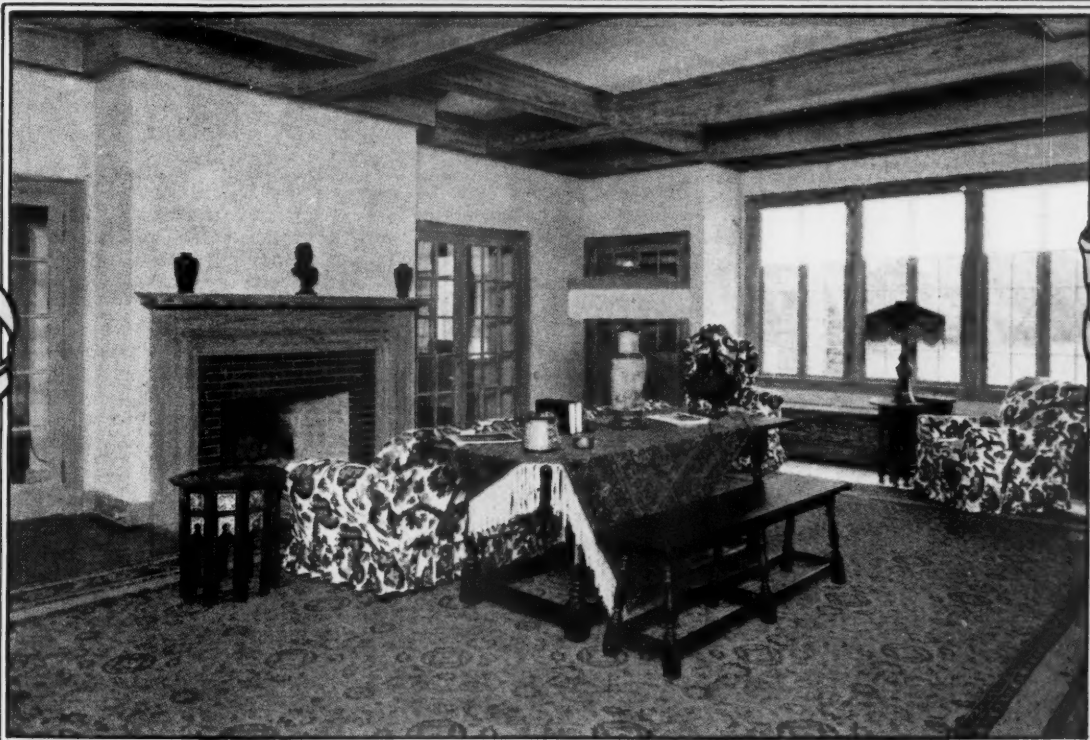


A Tiled Bath DeLuxe

IN the better homes bath rooms are being planned larger and often dressing table features are built-in, as here.

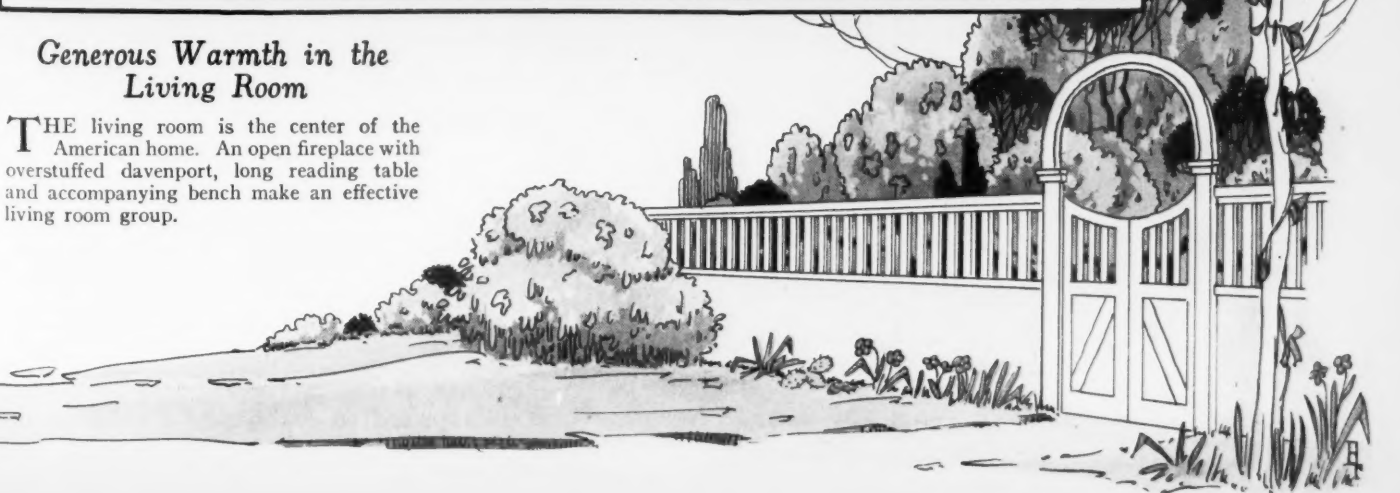
Rich Simplicity in a Hall

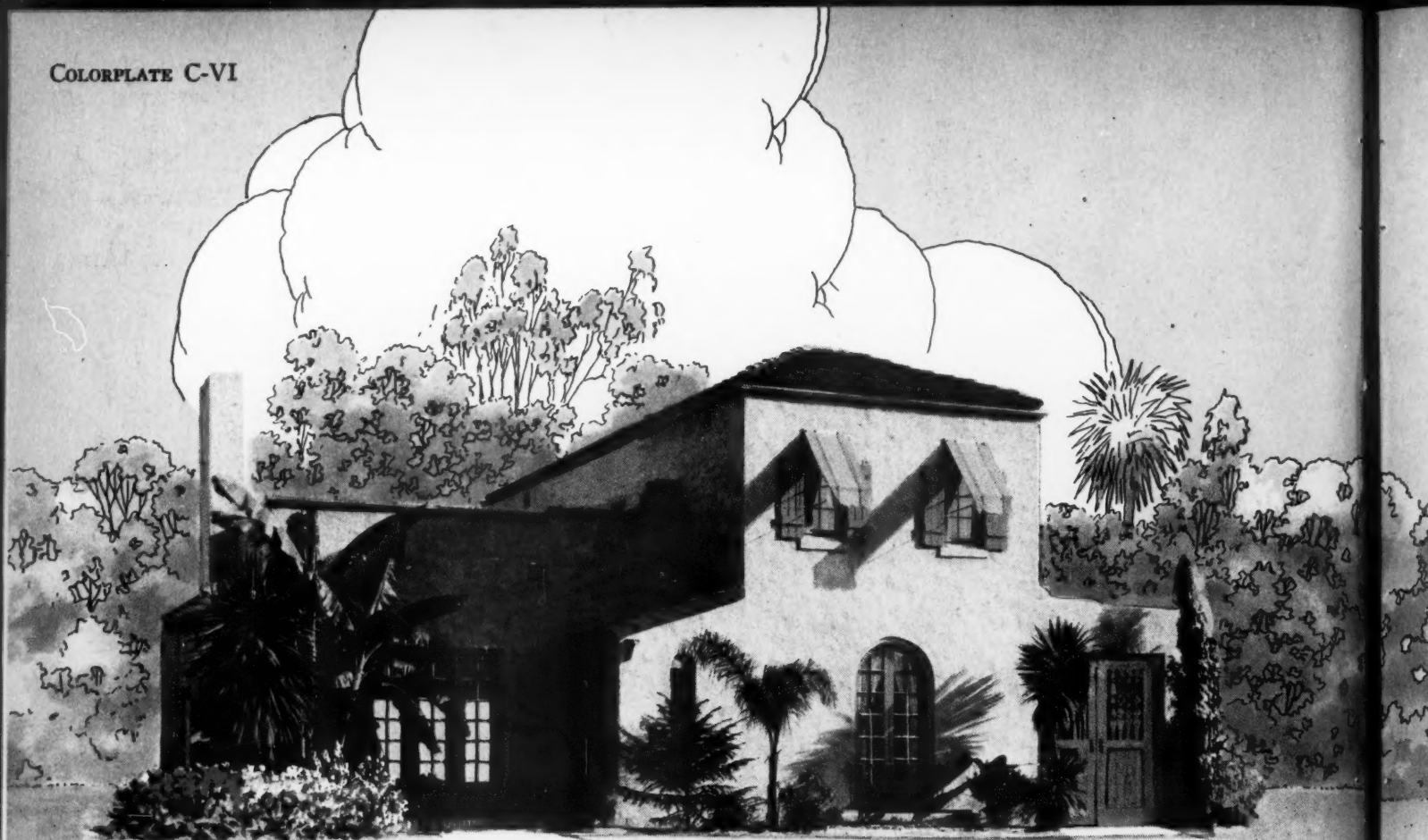
A COLONIAL stairway of generous width, finished in mahogany and white; a grey tiled floor; an arched opening; ivory panelled walls; and a few well selected pieces of furniture make a gem of this reception hall.



Generous Warmth in the Living Room

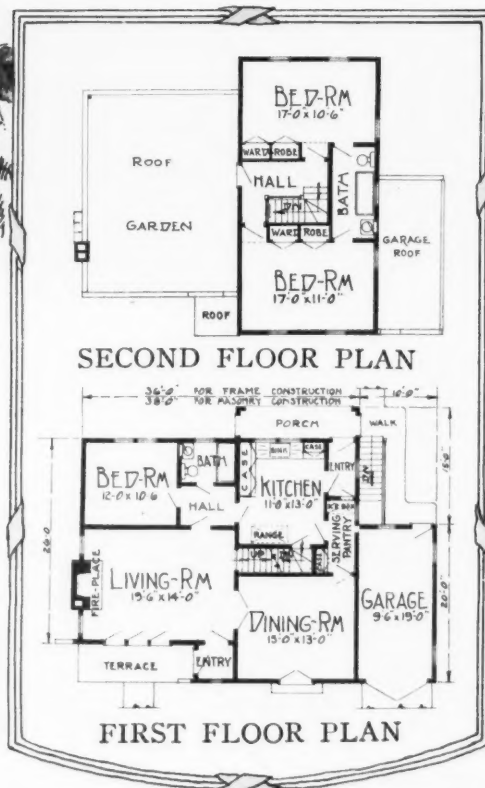
THE living room is the center of the American home. An open fireplace with overstuffed davenport, long reading table and accompanying bench make an effective living room group.





The CARMEN

STUCCO over a base of tile or metal lath on framework may be used for the construction of this pleasant Spanish type home of six rooms and two baths. Note that for masonry construction the dining room group is made two feet wider to make the bearing wall align with the upper floor wall. The charm of the living room, with its fireplace in keeping with the exterior of the building is revealed by the illustration at the left.

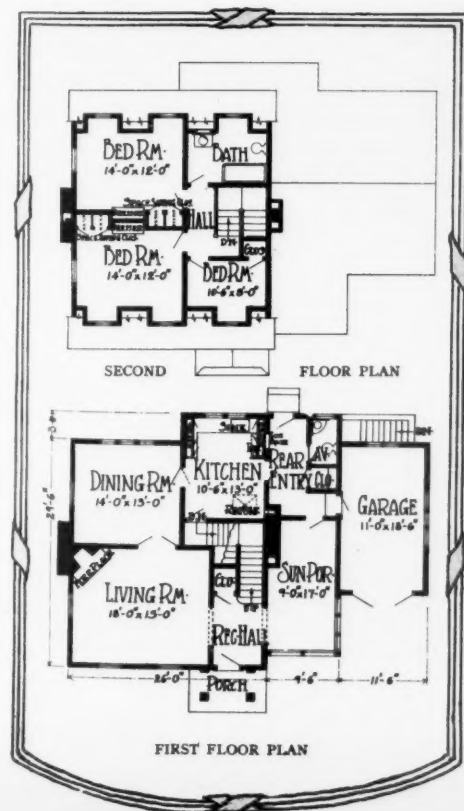


Home Seekers' Rush Into Oklahoma, April 21, 1889

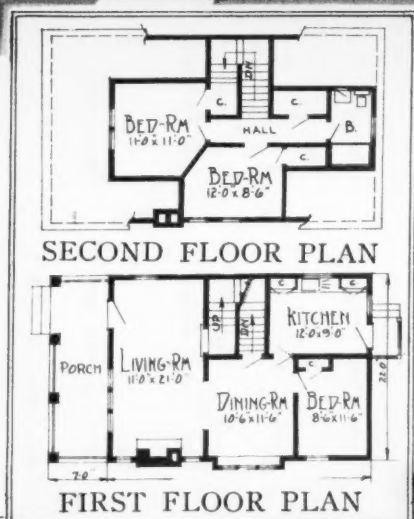


The CONCORD

WIDE, white shingles and well conceived dormers are pleasant features of this well planned Colonial home. The chimneys at either end of the house and the entrance are true to the architectural spirit of the home and the attached garage is a feature which will be appreciated. The interior is thoroughly livable as is shown in the illustration of the kitchen.



The First Inaugural, April 30, 1783

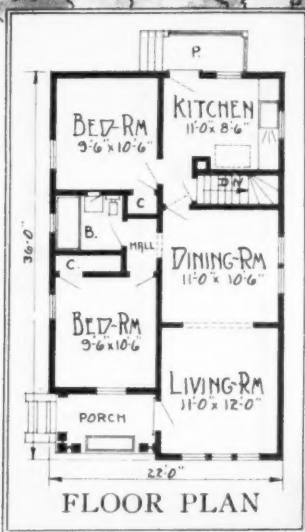
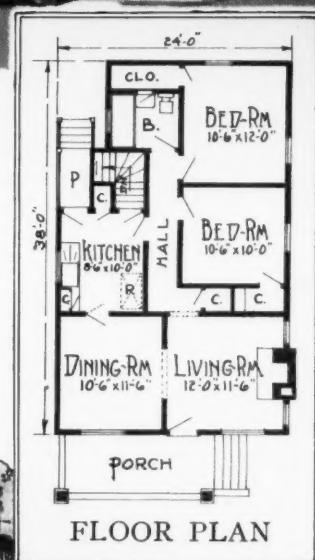


The CAMDEN

HERE is provided the convenience and comfort of the larger houses in such a manner that it is adapted to the uses and means of the average family.

The CANTON

THE Canton offers comfort and convenience of the highest type at a moderate cost. The arrangement of the rooms is such that it can be built on a small lot. It is only 24 feet wide.

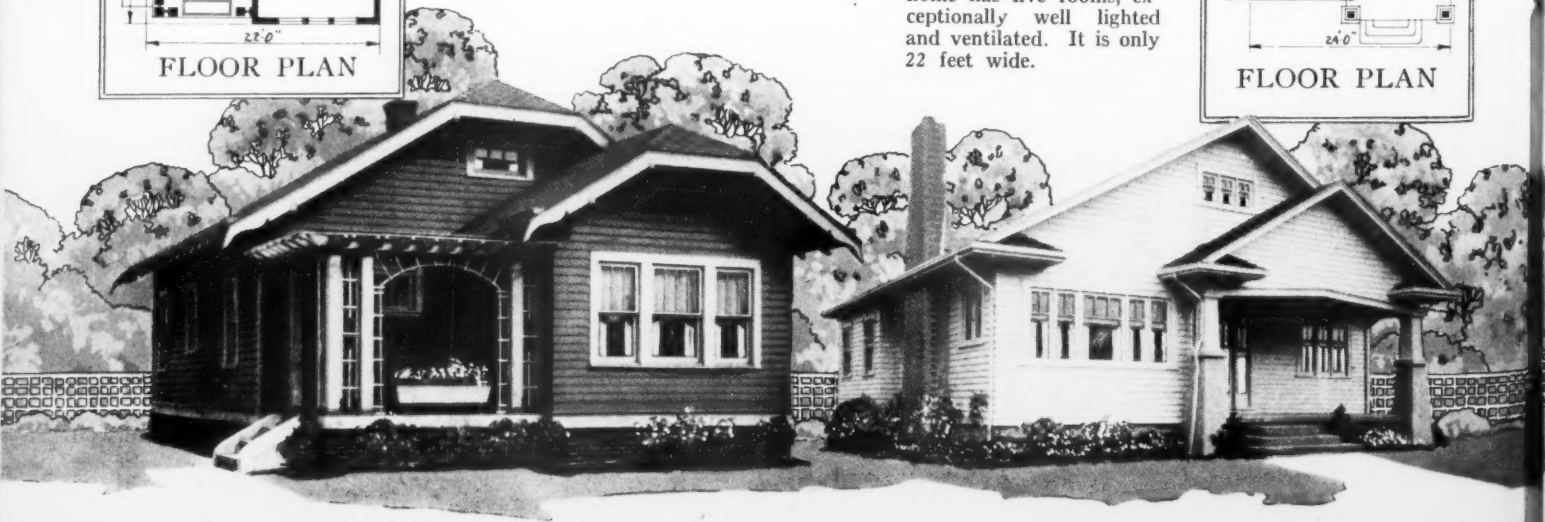
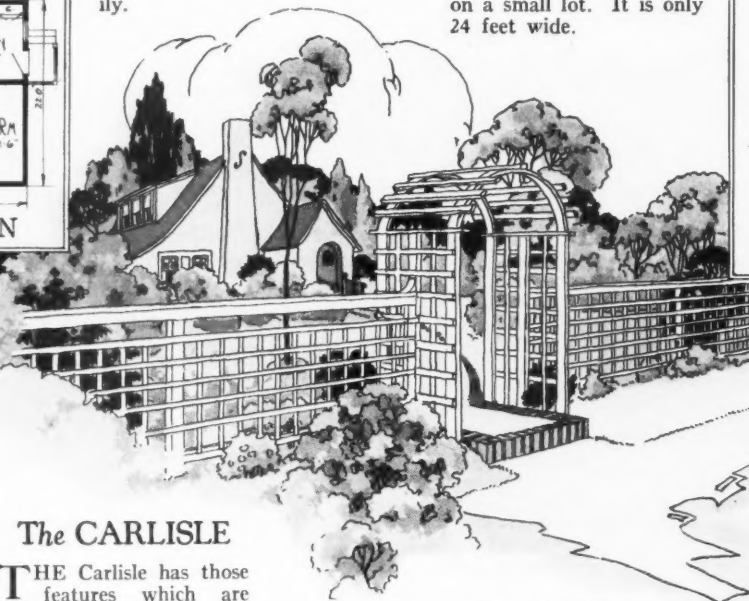
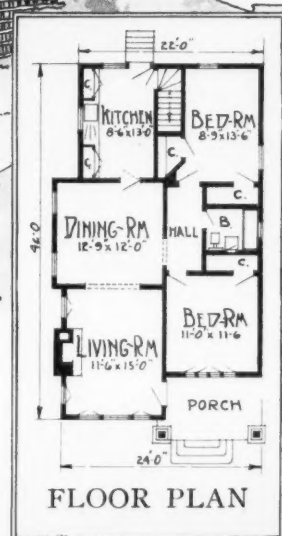


The CARLISLE

THE Carlisle has those features which are desired by all and which too often are found only in larger and more expensive homes.

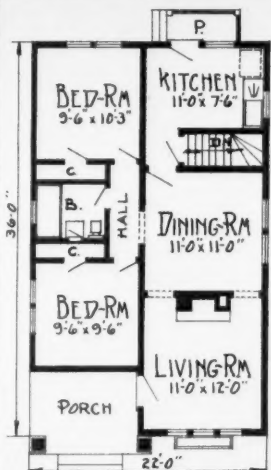
The CHANDLER

PRIM and attractive in its white paint, this home has five rooms, exceptionally well lighted and ventilated. It is only 22 feet wide.



The CHESTER

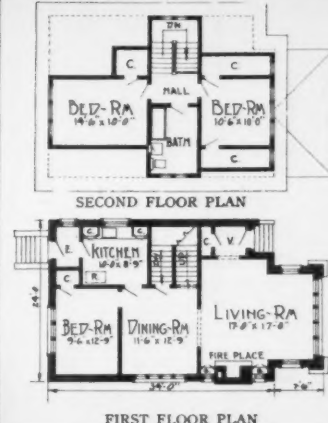
THIS home is designed to make possible the best features in the home of moderate size. Its five rooms are well arranged behind an unusually attractive exterior.



FLOOR PLAN

The CLIFTON

THE Clifton with its pleasing exterior, its living room with sun porch and fireplace, and its three bedrooms has an abundance of room entirely unexpected in a house of this size.



FIRST FLOOR PLAN

SECOND FLOOR PLAN

FLOOR PLAN

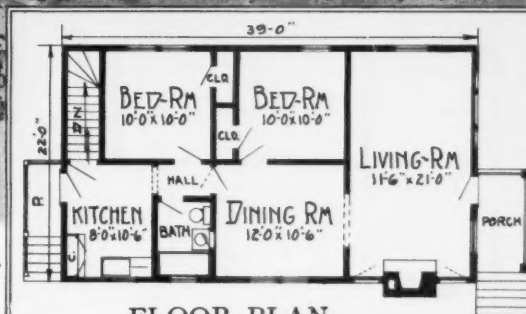
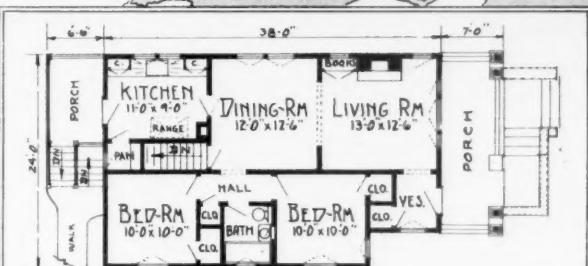
FLOOR PLAN

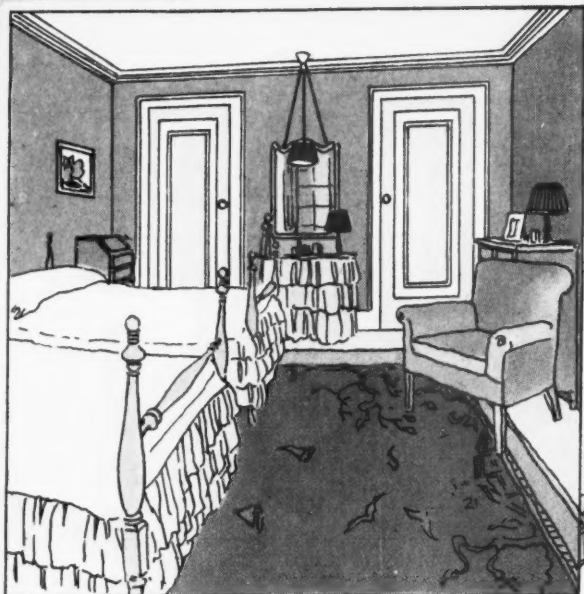
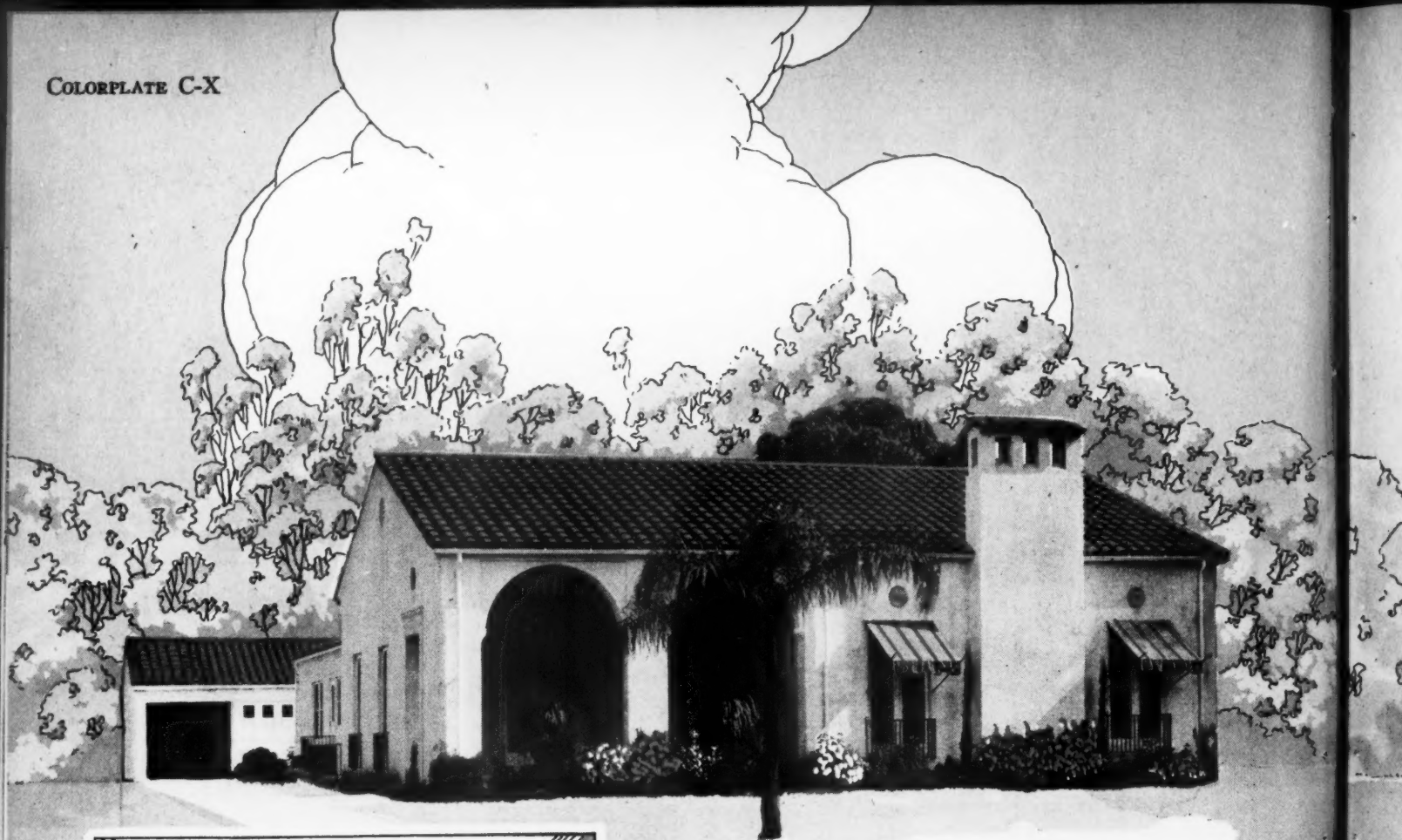
The CLOVERDALE

THIS home shows the attractive result of carefully planning a small home.

The CONWAY

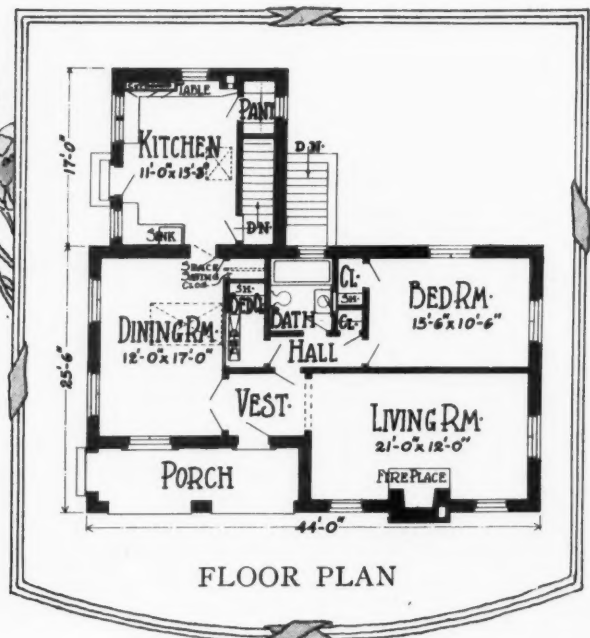
THE Conway demonstrates that the features of expensive houses can be adapted to smaller homes at a moderate cost.





The CAIRO

THE recessed porch with its unusual arches, the tile roof and the bright color of the awnings are touches which contribute much to the attractiveness of The Cairo. This four room home is given the efficiency of five rooms through the installation of a closet bed and space saving closet in the dining room, making this room available as a bedroom when occasion requires.

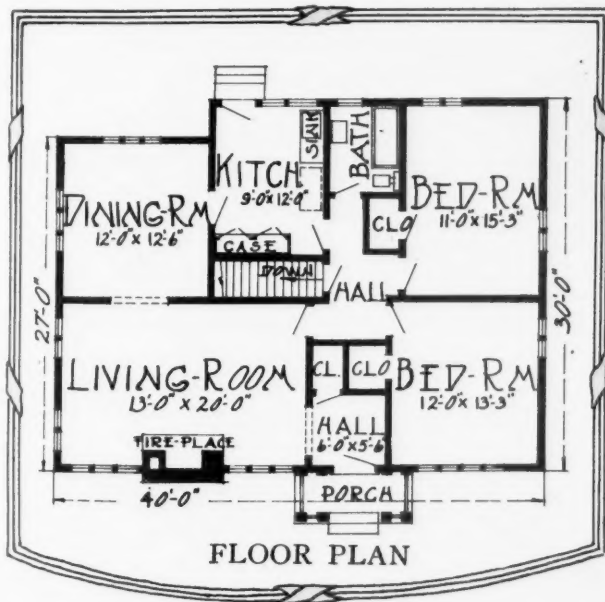
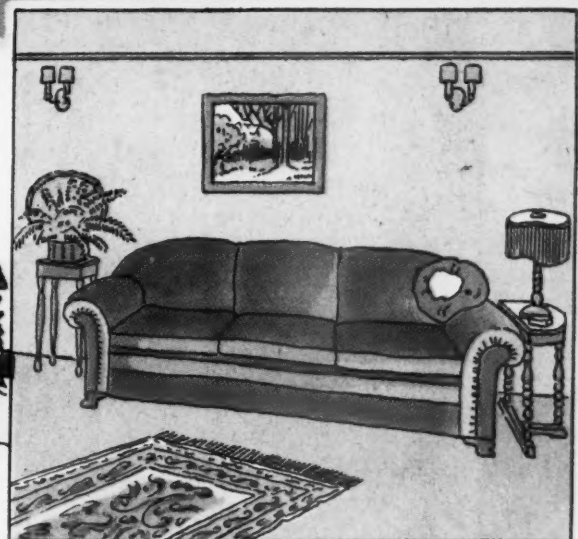


Andrew Jackson's Victory at New Orleans, Jan. 8, 1815



The CRESTON

THE warm color of the brick fireplace chimney and the brown of the shingle walls give a most inviting appearance to this convenient five room home. The long living room with its fireplace flanked by windows is particularly pleasing. A suggestion for the furnishings of this room is shown in the illustration. The bedroom group is well separated from the rest of the home and both of the bedrooms are cross lighted and ventilated.



Purchase of Alaska, 1867



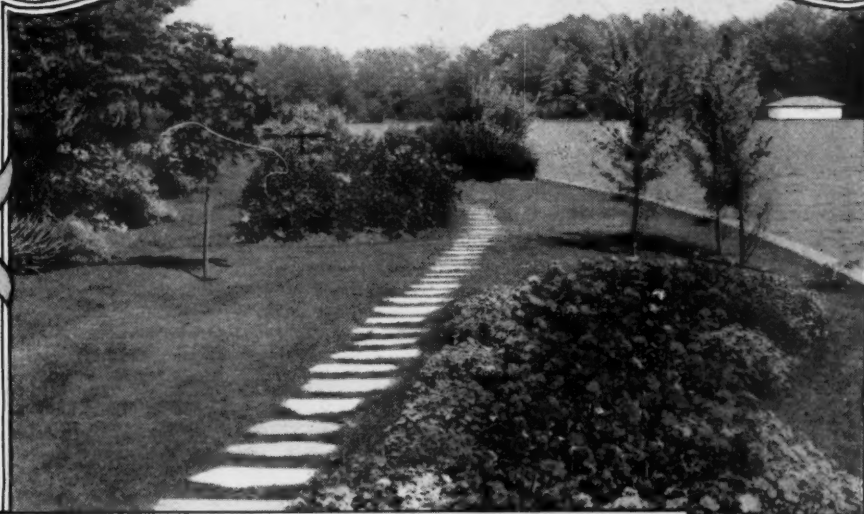
*Planting Completes
the Home*

HOLLYHOCKS for hominess is one of the sure rules for planting where an old fashioned garden is wanted. These showy perennials originally imported from China do well almost everywhere.



A Stepping Stone Path Along the Shore

THE garden invites
out of doors—
while the modern
home says "Come in."
Give us a choice for
happiness!



Fresh Air and Sunshine

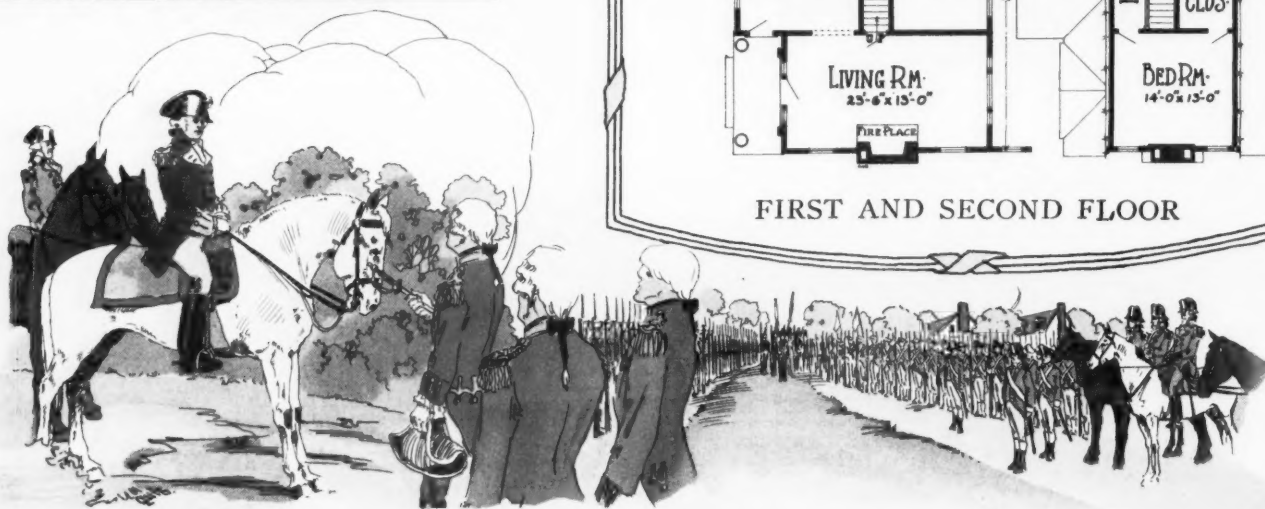
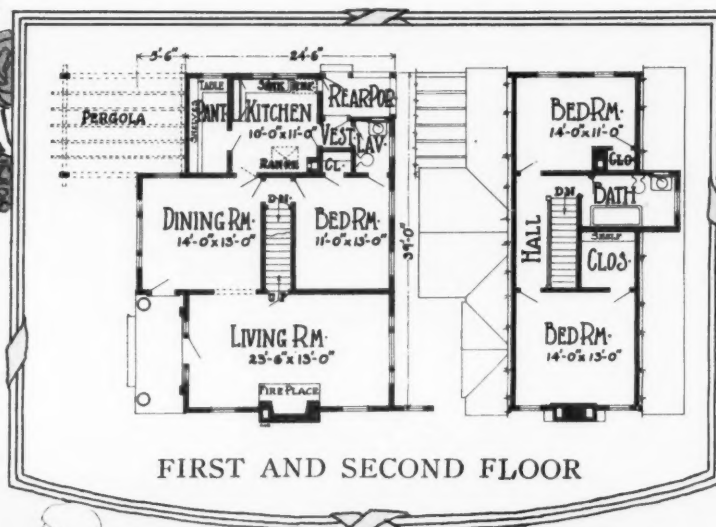
NOT every house can
overlook the water;
but every house can be
brightened up and beauti-
fied and made more
enjoyable by suitable plant-
ing.





The COLUMBIA

ATTRACTIVE efficiency in the home finds expression in this timbered stucco residence of six rooms. By placing the entrance at the side of the home the overall width of the house (exclusive of the pergola) is kept to 30 feet. The arrangement of the rooms is a convenient one. The illustration to the left affords a glimpse of the bath room.

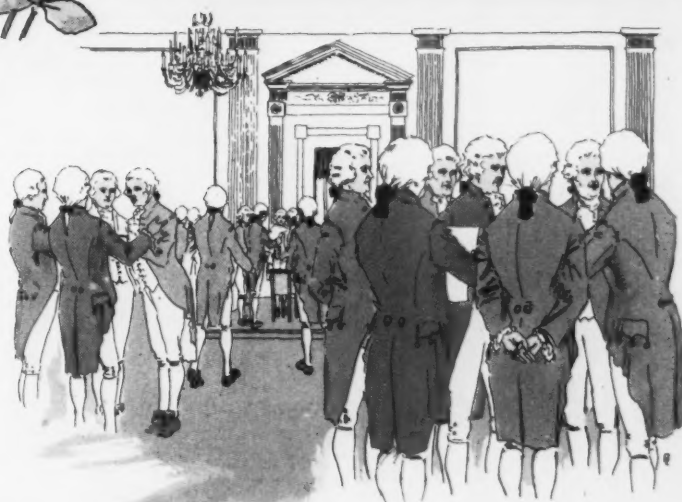
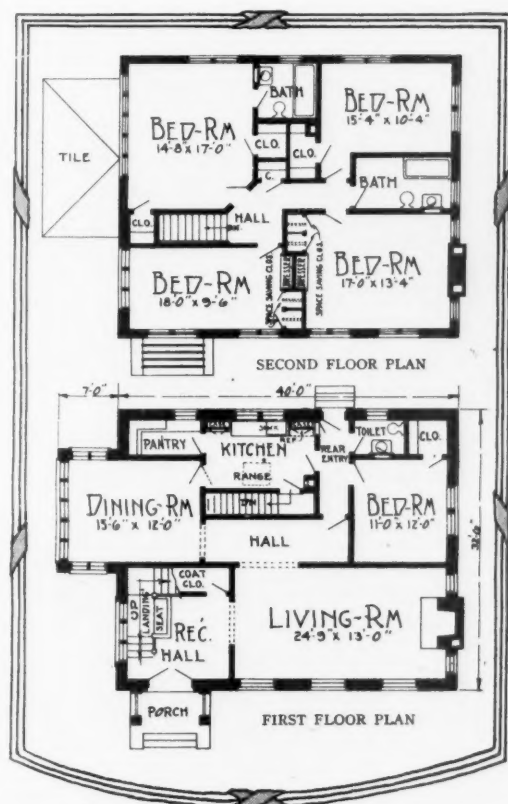
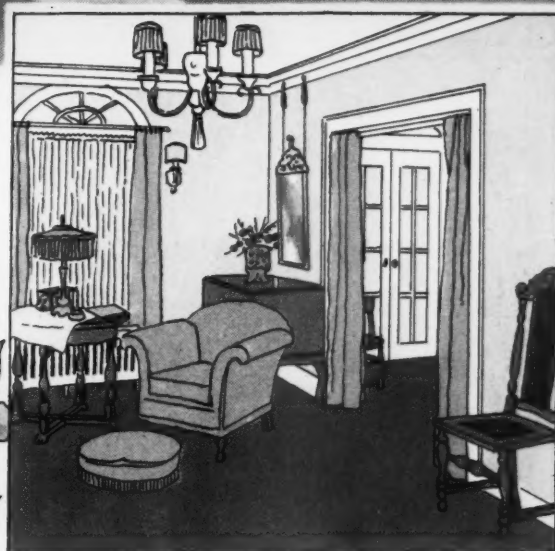


Surrender of Lord Cornwallis, Oct. 18, 1781



The COLFAX

THIS is a well designed brick residence of the dignified hip-roof style, containing eight fine rooms. The sketch to the right shows a corner of the living room and a glimpse of the reception hall and entrance.



United States Constitution Drafted, Independence Hall, Philadelphia, May to Sept. 1787

A black and white line drawing of a room. In the foreground, a rocking chair with a dark, patterned seat cushion and a light-colored, textured backrest is positioned. To the left of the chair, a small, round, white table holds a lamp with a conical shade. The background features a large window with multiple panes, through which a landscape with trees and a small building is visible. The floor is covered with a patterned rug.



SECOND FLOOR PLAN

Dimensions: 33'-0" x 25'-4"

Rooms and Dimensions:

- BED RM. 13'-0" x 10'-4"
- BED RM. 13'-0" x 12'-0"
- BED RM. 14'-0" x 12'-0"
- BATH
- HALL
- LAV.
- CLO.
- CLO.
- CLO.
- BALCONY

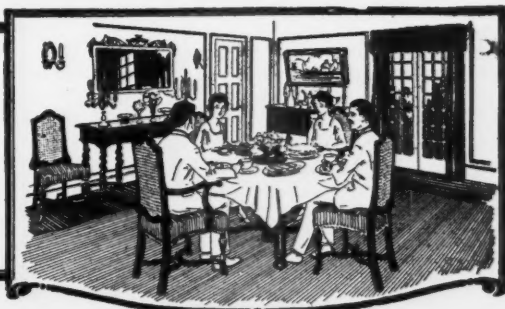
FIRST FLOOR PLAN

Dimensions: 33'-0" x 25'-4"

Rooms and Dimensions:

- PARLOR 14'-0" x 12'-0"
- DINING RM. 14'-0" x 12'-0"
- KITCHEN 14'-0" x 10'-4"
- LIVING RM. 16'-0" x 12'-0"
- SUN PORCH
- PORCH
- BUFFET
- STOVE
- SINK
- REF.
- LAV.
- BATH
- LANDING
- FREE PASS

OUR FRONT COVER HOME



Brick Timbered Stucco and a Roof of Tile Combine to Make a Pleasant Exterior for This Seven Room Home

THE inspiration for the design of this comfortable cottage, presented as this month's Front Cover Home, may well have come from Old England, where brick, timbers and stucco often are the means of effecting happy exteriors for homes.

The windows are arranged nicely and the long, horizontal lines of their groupings carry out the effect of low snugness which the house gives the passer. The arched and recessed entry is particularly interesting, with its white keystone and friendly lanterns.

The interior of the home is so planned that it will appeal to any number of American families, particularly where there are children and elderly folks who make downstairs bedrooms a real convenience.

The entry leads directly into the reception hall where the stairs allow access to the second floor. To the left, the reception hall is open to the roomy living room with its charming and unusual corner fireplace. The sun

parlor, equipped with casement windows, adds much to the space in the room.

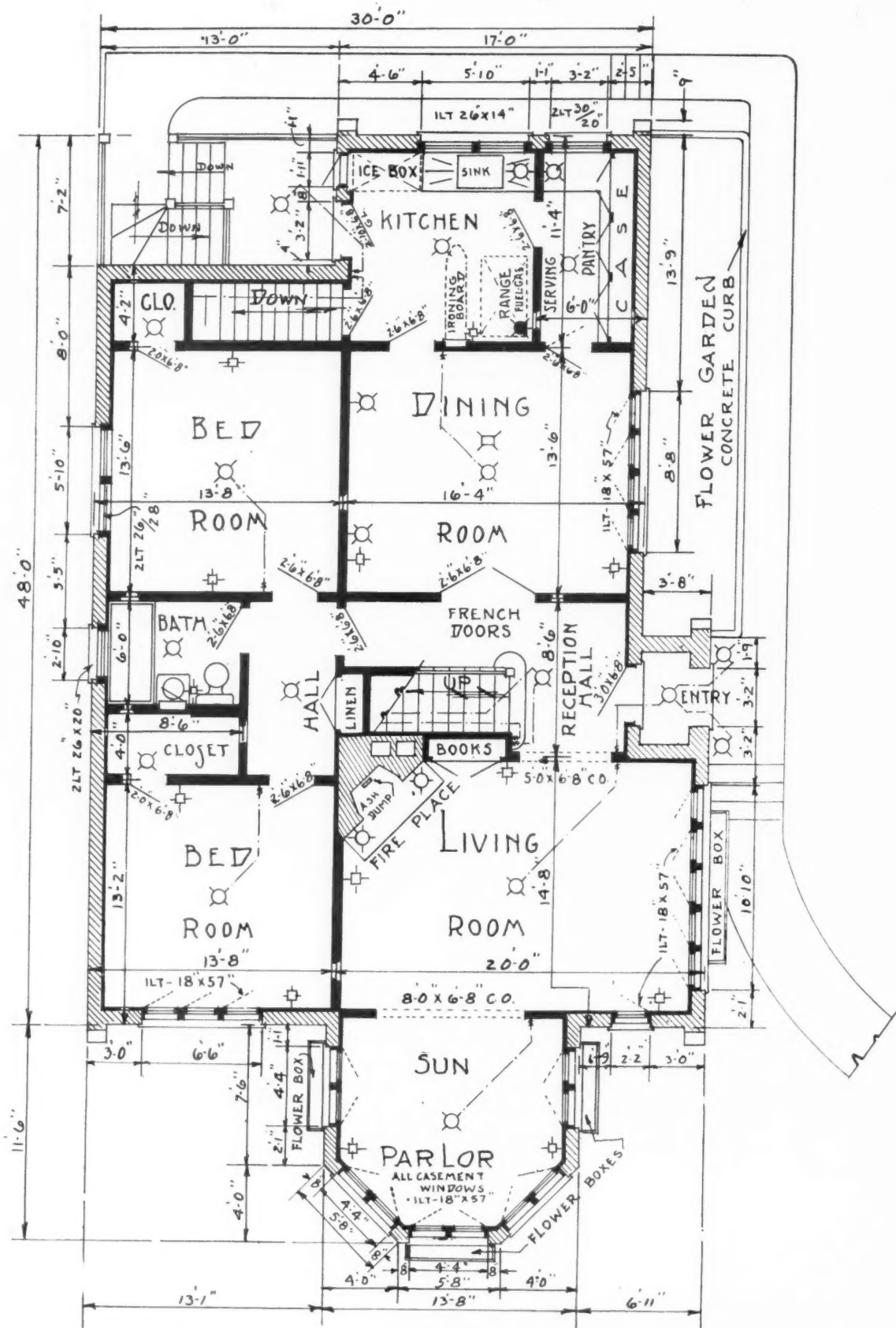
The dining room is separated from the reception hall by French doors. It is adequate in size and the interior wall is such that it allows the convenient placing of a buffet or other large piece of furniture.

The arrangement of the kitchen and pantry is particularly good. Two swinging doors allow one to come to the dining room directly from the kitchen or through the pantry, where cases and shelves are built in for the convenience of the housewife. The kitchen allows the refrigerator to be iced from the outside and has a number of other interesting features.

The downstairs bedroom group, reached through the reception hall, is well isolated from the rest of the home and has its bath well placed. Both of the bedrooms on the second floor are pleasant rooms with large closets and casement windows.

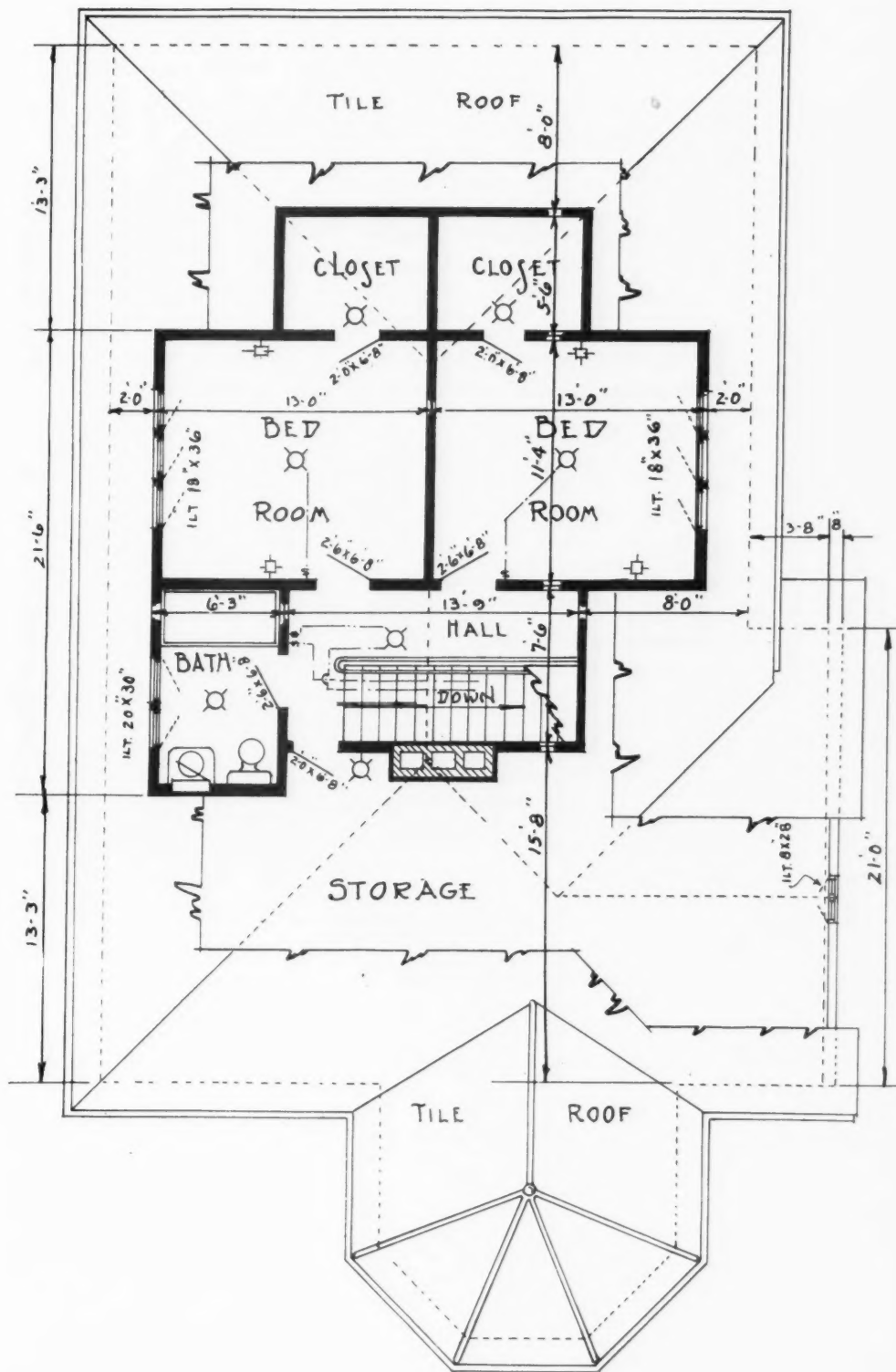


Pleasant and Substantial, This Residence Will Prove a Most Attractive Home for the Average American Family. While it is distinctly individual, it is not freakish. Detailed drawings of the home are presented on the four pages following, and a perspective view in full colors appears on the front cover.



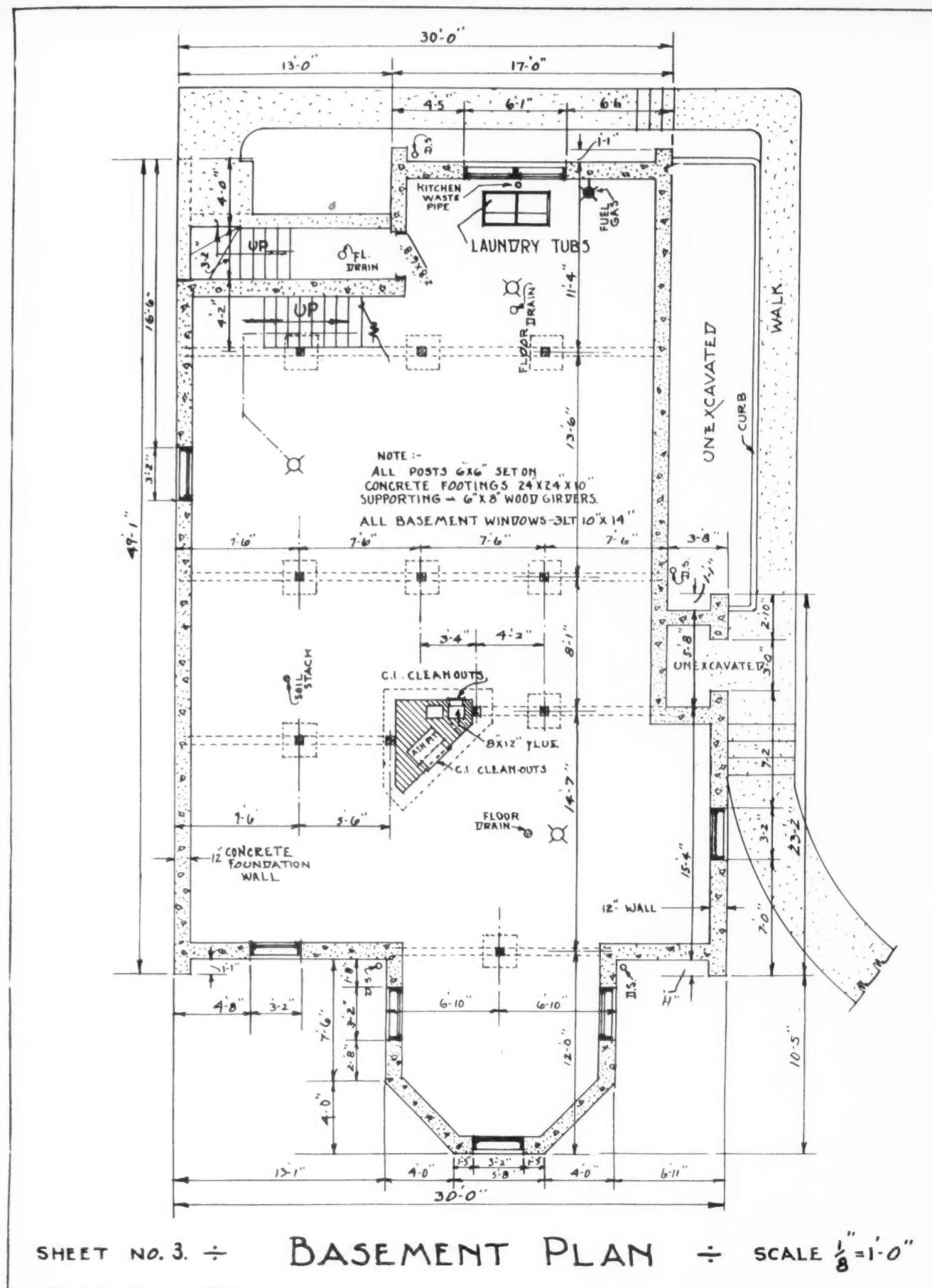
SHEET NO. 1 ÷ FIRST FLOOR PLAN ÷ SCALE $\frac{1}{8}'' = 1'-0''$

The First Floor Plan of the Front Cover Home Shows the Interesting Manner in Which the Fireplace Has Been Built in One Corner of the Living Room. Another interesting detail is the built-in bookcase. The second floor plan is shown on the opposite page.

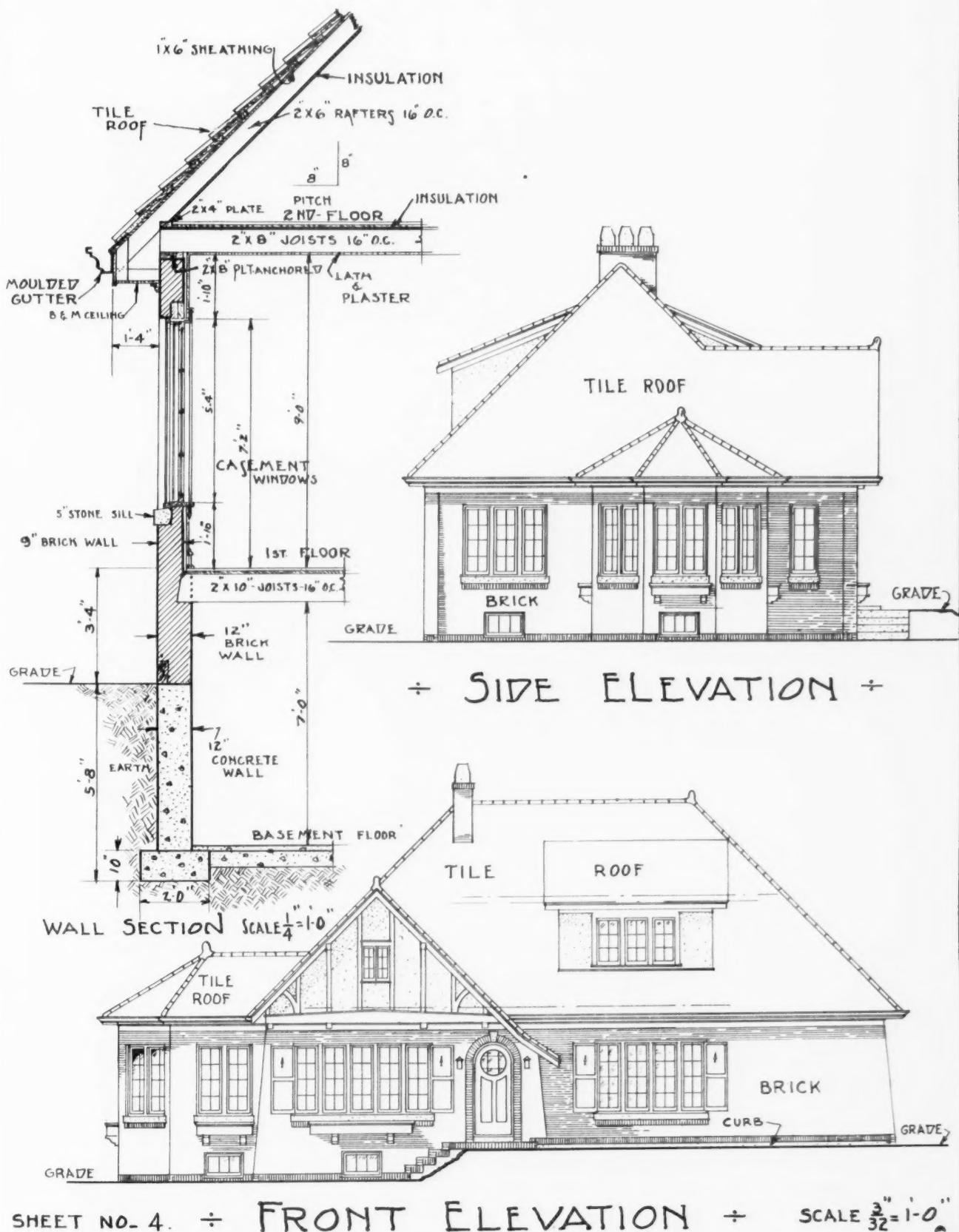


SHEET NO. 2 ÷ SECOND FLOOR PLAN ÷ SCALE $\frac{1}{8}" = 1'-0"$

Two Well Proportioned Bedrooms with Commodious Closets and a Bath Are Provided for in the Plans for the Second Floor of This Month's Front Cover Home. The storage space, reached through a door in the stair hall, is a convenient feature. Plans for the basement are given on the page following.



The Details of the Excavation, Cement Work, Floor Supports and Other Features of the Basement Are Shown in This Plan of the Front Cover Home. The front and side elevations and cross section of the home are presented on the following page.



Details of the Construction of the Front Cover Home Are Presented in the Cross Section Shown Here. Note the insulation under the roof and under the second story floor. This will stop much heat loss through the roof.

Making Over Old Buildings

Obsolete Types of Structures in Philadelphia Are Made Useful and Attractive by Careful Planning and Efficient Workmanship

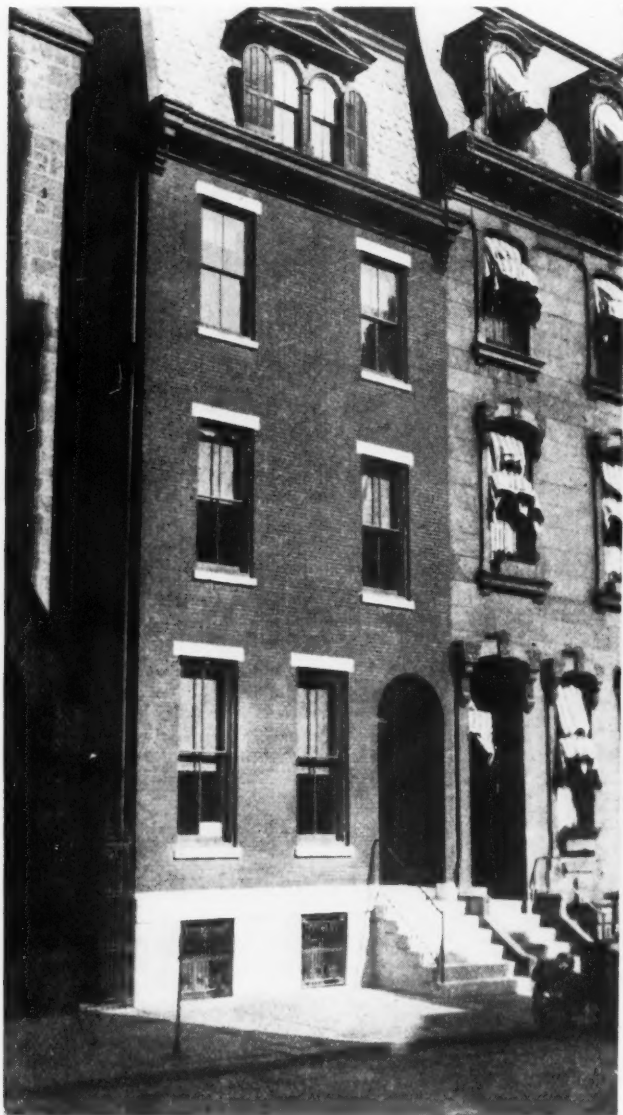
By GEORGE F. PAUL

PHILADELPHIA has long had an enviable reputation as the "City of Homes," but naturally in the course of years these homes become sadly out of style and some of them may go begging for a tenant. It is at this point that the architect who has certain definite ideas about remodelling comes in. He is the one who can give the old building a new lease on life through the transforming magic of some radical changes.

Members of the club known as the Republican Women of Pennsylvania were for a long time dissatisfied with the appearance of their club building. It was certainly commonplace, to say the least. There was nothing inviting about the six rectangular windows that stared blankly from the brick wall, nor in the

dormer window that was perched above like an inquisitive head with old shutters for ear-muffs. No, there was nothing about the exterior of the building that would make any woman feel the least impulse to join the club. Then came the transformation that changed the old building into a modern structure with four full stories. Gone were the staring windows, gone was the dormer window. In their place were attractive windows grouped in threes, or French doors leading out to the inviting balcony. White woodwork had brightened up the entrance. The club seal decorated the front and the American flag flew proudly. All of these transformations were under the direction of William F. B. Koelle, architect.

Excellent results were obtained, in another instance,



Members of the Republican Women's Club of Philadelphia Had No Reason to Be Proud of the Exterior of Their Quarters, Until, as Shown to the Right—



The Services of an Architect and Builder Were Sought and the Formerly Drab Exterior Was Transformed Into a Bright Spot in the Neighborhood.

by remodeling the large 4-story house at 221 South Seventeenth street, a house that had been standing idle for a long period. This building is now owned by a high-class merchant tailor who has his "daylight" establish-

ment on the second floor, private apartments on the third and four floors, and who rents the new store on the first floor to a business firm. Both the front and side walls of this building have been finished with portland cement stucco in a highly artistic manner and various other improvements have been made. As a result, the value of the building has been greatly increased over what it was a year ago.

The magic of the builders is abroad in the "City of Homes." It has recently created Sansom Gardens in a district where there were formerly a dozen dingy houses of the typical old-fashioned red-brick pattern. It has produced on Panama Street what is now known as Panama Street Village. The remodeled homes are at a premium, proving that after all there is really something in a name, especially if it means the change from unsightly red-brick houses, all struck from the same pattern, to houses possessing artistic beauty and individuality of de-

builders is abroad. What will go well in Philadelphia should succeed in many other similar locations.



This Building at 221 South Seventh Street, Philadelphia, Had Little to Commend It Until It Was Given a New Front as Shown Below.



This Building, the Same as Shown in the Smaller Picture on This Page, Was Much Increased in Value After It Was Given a New and Attractive Front.

Hotel Building in Bermuda

A HOTEL building enterprise of some magnitude has been brought to successful completion in the erection of the Hotel Royal Bermudiana, Hamilton, Bermuda. The problem of suitable construction material for the hotel on its island site was met by building of concrete blocks, made at the site of the

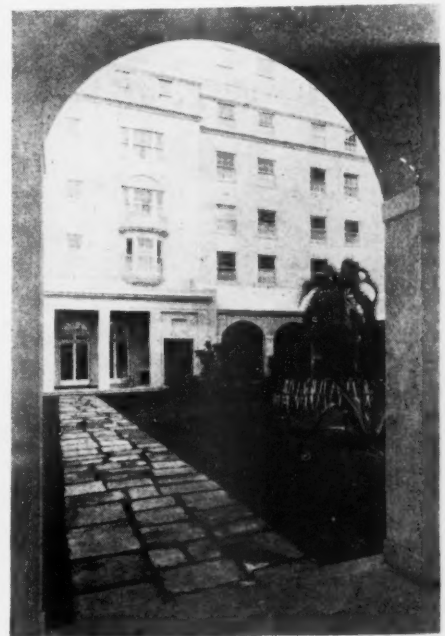


The Hotel Royal Bermudiana, Hamilton, Bermuda, Warren & Wetmore, Architects; James Stewart & Co., Contractors.

building with machinery imported for that purpose from the United States.

The one item of concrete block alone is considerable, 115,000 of these, in various sizes having gone into the erection of the hotel. Two complete block-making equipments, furnished by an American firm, were employed on the work—two block machines, two tampers, two conveyors and feeders and two mixers.

The Hotel Royal Bermudiana does credit to the craftsmanship of James Stewart & Co., contractors, and Warren & Wetmore, architects, both of New York City. The illustrations reproduced here are totally inadequate to the task of portraying the charm of the building and its magnificent surroundings. It makes a very pleasant picture standing in relief against a background of trees, shrubs, lawns and flowers.



An Attractive Vista Showing a Flagstone Walk to the Hotel, Which Is Constructed of Concrete Blocks.

The hotel proper has five floors and 250 rooms, while there are two wings of four floors. There is also an enormous cistern made of concrete, the dimensions being 110 feet long, 45 feet wide and 30 feet deep.

Modern Plumbing in Kitchens and Laundries

By KARL WILLIAM ZOELLER

Author of "Merchandising the Plumbing Business"

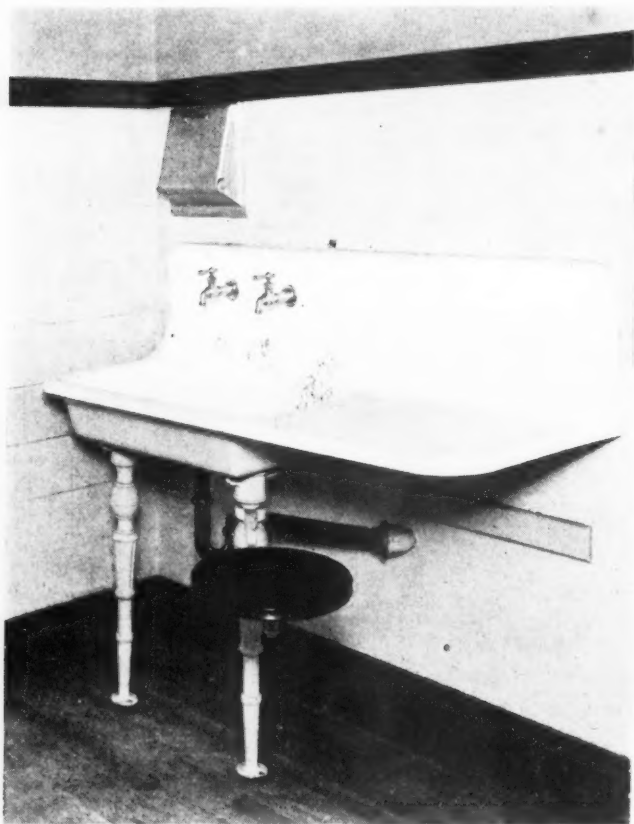
EDITOR'S NOTE—This is the third of a series of articles on the value of plumbing in building operations. The fourth article will appear in an early issue.

DOMESTIC SCIENCE experts all agree on one subject: kitchens should be built around the kitchen sink. Plumbing fixture manufacturers have recognized this fact and the remarkable improvements they have produced in this most necessary article is indicative of their thorough study of the trend of modern living conditions.

It is good salesmanship to sell your customer what he wants. In fact, it is the one sure way of building a permanent business.

America has been struggling with the servant problem these past ten years and those contractors who keep this thought continuously in mind when planning homes are sure to achieve the kind of living quarters people want.

The help problem starts in the kitchen, and a practical, efficient kitchen sink will go a long way towards lightening the burden of the continuous tasks that are performed in this laboratory of the home.



Just Below the Moulding in This Illustration Is Shown the Incinerator Opening. Kitchen refuse deposited here is disposed of finally.

The modern kitchen sink is, first of all, a beautiful and attractive piece of furniture; it is either solid vitreous china or snow white enameled iron; and it is big and roomy; it invites working at it; it embodies the spirit of efficiency.

The chief characteristic of the most recent models is they are built in one piece, with either single or double drain board; with deep, wide basins. Some sinks are equipped with adjustable legs, a feature that has much to commend it; the sink may be set at the height that makes the work most comfortable and convenient.

In apartments the kitchen sink serves the double purpose of both kitchen sink and laundry tubs. These are made in the same material as found in the regular sinks. The white enamel covers of the laundry tubs become either the drain board for the kitchen sink or a work table for the kitchen. These are very attractive in appearance and in their combined utility are a great labor and space-saving arrangement for apartment homes.

Plumbing supplies have kept stride with the fixtures; the new kitchen sink faucet has become a single spout on a swivel joint; it is long enough to swing over the outside of the dishpan, to rinse the dishes and when not in use may be folded against the back splash board. The mechanics of these spouts have been improved; the best ones now supply water in a smooth running stream, without splashing.

It is a little thing but very important to those who work in the kitchen. There is also another variation of the swivel faucet. This one has an extra outlet with a rubber hose connection with a small spray similar to a shower head. This is found a great convenience in cleaning vegetables and rinsing dishes.

Then there's the special sink for washing vegetables always found in the big kitchen; these are usually made to order for each job; the sink has a divided compartment and is lined with german silver or white metal. They are very practical and much in demand in homes that boast of a chef.

In these same homes the butler's pantry contains a sink that is used for washing silver and the table glassware. Special tops of composition material are provided for sinks of this kind that insures glassware against breakage. While classed as luxuries in smaller homes, these sinks are necessities in the big houses and there is a definite demand for both of them.

Modern plumbing has another important function

in the kitchen; a drain built into the floor for the ice box. This equipment has so much in its favor that we believe every contractor will realize its value and appreciate its selling force as standard equipment in almost every type of home.

Garbage incinerators are rapidly becoming a staple part of kitchen equipment and come under the head of plumbing supplies. While this item has been considered an innovation and is now only installed in the finest buildings, their practicability and usefulness is so apparent that they are finding their way into modest bungalows and apartments.

Only second in importance to the sink in the kitchen is the supply of hot water and here, too, we find manufacturers have anticipated the need. There are dozens of water heaters that deliver water as hot as may be wanted, and what is more important, instantaneously, when it is wanted.

This is a subject that contractors should study very carefully. The average woman knows the relative merits of the several advertised water heaters and the builder who is wise will install only those which have a reputation.

Of course, the water heater is of more concern to the individual home owner than to the apartment dweller. In apartment houses, the water heater usually is an integral part of the heating plant, and supplies the entire house; but for residences and bungalows a water heater is an object of real concern; the contractor who is foresighted enough to install a practical and reliable outfit will make friends at once with prospective owners or renters.

And as the hot water heater is usually located in the basement, let us follow it downstairs and look at the plumbing requirements of the cellar and basement.

Good Plumbing in the Laundry

While it is true that a great majority of all kinds of homes are equipped with slate laundry tubs, still there is a very definite trend to the all-white tub, and reason enough. There's an air of cleanliness about white china or white enamel tubs; they add a note of cheerfulness to the laundry that make them attractive to women and to attract is the first step in salesmanship.

However, white tubs are also as practical as they are ornamental; they are easier to keep clean and clothing is not likely to become spotted with rust. It is easy to understand that a woman would trust her daintiest garments to be washed in a spotless white laundry tub.

Plumbing manufacturers are showing some beautiful and practical laundry tubs both in vitreous china and white enameled iron. Here, too, some manufacturers have wisely adopted the adjustable legs so that washing may be done at the most comfortable height.

These modern tubs are equipped with sparkling nickeled faucets and soap dishes that do not rust and these lighten the drudgery of wash days.

Laundry tubs may be had single or double or three in a row, and are equipped with strong board to hold the wringer.

In planning the laundry and cellar the builder should never fail to include a toilet in the basement, as prospective home owners will immediately see the value of this convenience; the toilet may be located in the cellar in a stall and the investment will pay for itself over many times in its comforts and the saving of steps.

In this article we haven't mentioned costs, for the reason that good plumbing may be had nowadays for almost any reasonable price you wish to pay. Of course, the better class fixtures cost more than the cheaper grades, but the character of the house should determine the quality of the plumbing and let us finish by saying that no builder ever lost out using the best grades of plumbing material and fixtures. As we have said in previous articles, the public has become educated to the hygienic value of good plumbing.



This One-Piece Sink, Adjusted to the Height of the User, Is Equipped with a Swivel Mixing Faucet.

Sheet Metal Working Methods

Details of Valley Flashings, Flashings for a Wooden Window Head, Water Tables and Stucco Work Shown in Well Explained Diagrams

EDITOR'S NOTE: *This is the second of a series of articles, presenting authentic details for flashing and metal work problems in building. The drawings, presented on the opposite page, are sponsored by the Copper and Brass Research Association, and may be applied in the use of all roofing metals.*

The first of this series was published in the Novem-

ber issue of the AMERICAN BUILDER. Readers will remember that the drawings are intended to show the details of construction for every trade involved and are suitable for use by the drafting room in designing details. The distortion of the drawings will be apparent at a glance, but this purposely has been done that the methods may be made more apparent.

NOTES FOR DRAWINGS ON OPPOSITE PAGE

FIG. 5. When two adjoining slopes of a roof deliver unequal quantities of water to a valley, the larger quantity of water may force the smaller quantity back on itself and up beyond the top of the flashing. To prevent this a 1-inch crimp is sometimes put in the metal at the bottom of the valley. This breaks the force of water and prevents it from ascending the opposite slope.

Fig. 6. In the construction of open valleys care should be taken to extend the metal flashing far enough up under the shingles so that the flashing will be covered by at least two thicknesses of shingles as shown in Fig. 6.

Fig. 7. The return on the upper edge of the flashing and the "fold-over" are shown in Fig. 7. A slight opening shows between the layers of metal. This has been done in order to illustrate clearly the method employed. In practice in both these places the metal should be pressed out together. This insures an even ridge for the shingles to rest upon. The advantage of this type of valley is that the "fold-over" provides a means of expansion for the metal flashing.

Figs. 8 and 10. Flashings for a wood window frame in a stud wall are shown in Figs. 8 and 10. Fig. 8 shows the flashing at the head of the window. This flashing is placed after the frame and outside trim has been set but before shingling. The flashing should be carried up on the wall at least 3 inches (but must always be covered by at least two thicknesses of shingles). The bottom of the strip is nailed to the top member of the trim. A better fastening for the lower edge is by means of the edge-strip illustrated in Fig. 12. This is especially recommended when the trim has considerable projection or when an uneven row of nails on the upper edge of the trim would be unsightly. Fig. 10 shows the method employed for flashing the sill. The flashing is set after the sheathing is in position but before the window frame is placed. It should extend 4 inches out on the roof and as far as possible up under the sill. After the window frame is set it should be secured to the sill with copper nails. The edge should be turned back on itself $\frac{1}{2}$ inch and after the shingles are placed turned down on the shingles.

Fig. 11. When a wood window or door sill is set on a stone or concrete sill it is good practice to avoid an open joint between the two sills where rain or wind might enter. To prevent this a water-bar of 20-ounce copper 2 or 3 inches wide is set in the wood sill. A reglet is cut in the stone sill and filled with pitch or other waterproofing compound just before the wood sill is placed and the wood sill with the projecting water-bar set in place in this compound.

Fig. 12. At the base of a frame building where a projection (sometimes called a water-table) is formed the upper surface is protected by metal flashing in the manner shown in Fig. 12. A brass edge-strip is first secured to the wood by brass screws or nails and the copper flashing hooked over this strip and extended up on the sheathing and secured by copper nails not more than 8 inches apart along the upper edge. A cheaper and less efficient method of fastening is by nailing along the lower edge only. In either case a drip should be provided to prevent rotting of the woodwork. Four inches up on the sheathing are sufficient when the shingles are doubled at the bottom of the wall but more is needed if shingles are but single course and the copper must be covered by the second course.

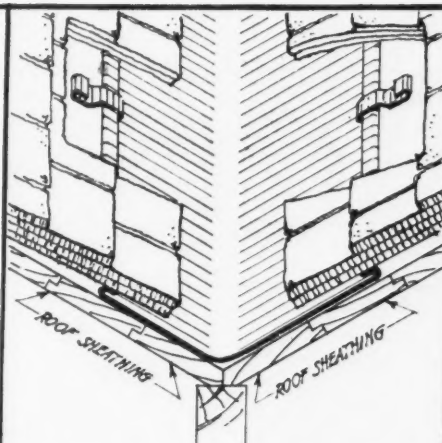
Fig. 13. When a shingle roof abuts a shingle wall the metal flashing is arranged as shown in Fig. 13. This flashing should be extended 4 inches out on the roof over the shingles and up on the wall sheathing at least 4 inches and secured along the upper edge by copper or zinc nails. Note the $\frac{1}{2}$ -inch "fold-over" on the lower edge.

Fig. 14. When a felt or other laminated roof abuts a wall covered with stucco the detail shown in Fig. 14 is used. The lath should lap the cap flashing at least 1 inch. The base flashing should extend out on top of the roofing material at least 4 inches and be placed after the roofing is laid. Two additional layers of the roofing material should be placed on top of the base flashing after the flashing has been well swabbed with pitch. Base flashing should extend up on the sheathing far enough to allow a 4-inch lap of the cap flashing and be nailed along its upper edge with copper or zinc or zinc coated nails.

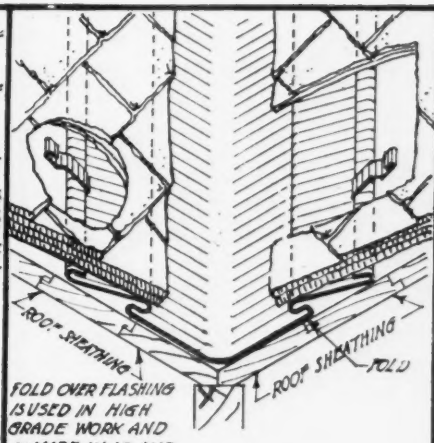
WHEN ROOF SLOPES DO NOT HAVE THE SAME PITCH OR WHEN ONE ROOF DISCHARGES MORE WATER THAN THE OTHER THE CRIMP IS PLACED IN THE VALLEY TO BREAK THE FORCE OF THE DESCENDING WATER AND PREVENT THE WATER FROM ONE ROOF BEING FORCED ABOVE THE TOP OF THE FLASHING ON THE OPPOSITE SLOPE



CRIMP USED IN OPEN VALLEYS ⑤

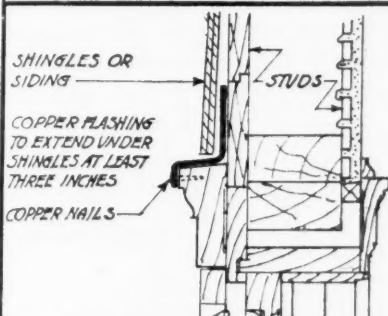


OPEN VALLEY FLASHING SECURED BY CLEATS ⑥



FOLD OVER FLASHING IS USED IN HIGH GRADE WORK AND IS MADE IN 16 AND 18 INCH WIDTHS

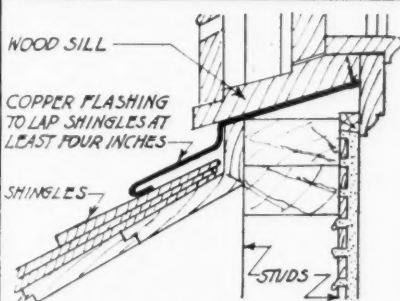
FOLD OVER VALLEY FLASHING ⑦



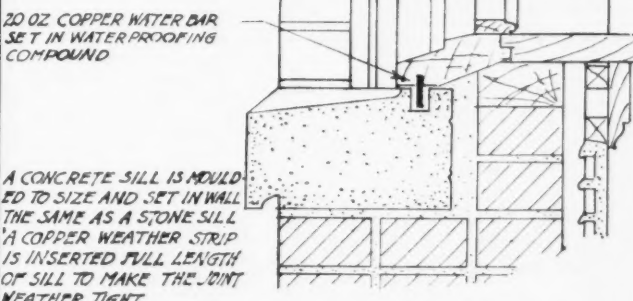
FLASHING FOR WOOD WINDOW HEAD ⑧

EXPOSED FLASHINGS FOR OPEN VALLEYS TO BE FORMED WIDER AT THE BOTTOM THAN AT THE TOP. MAKE THE DISTANCE FROM THE EDGE OF THE SHINGLES TO THE BOTTOM OF THE VALLEY NOT LESS THAN TWO INCHES AT THE NARROW PART OF THE VALLEY AND ONE HALF INCH IN EIGHT FEET WIDER TOWARD THE BOTTOM. FLASHINGS TO BE SECURED BY SOFT COPPER CLEATS ONE AND ONE HALF INCHES WIDE AND THREE INCHES LONG FASTENED TO THE ROOF BY TWO COPPER NAILS. ENDS OF CLEATS TURNED OVER NAILS. CLEATS LOCKED TO SHEETS BY A HALF INCH PLAT LOCK. CLEATS TO BE SPACED EIGHT TO TEN INCHES ON CENTRES.

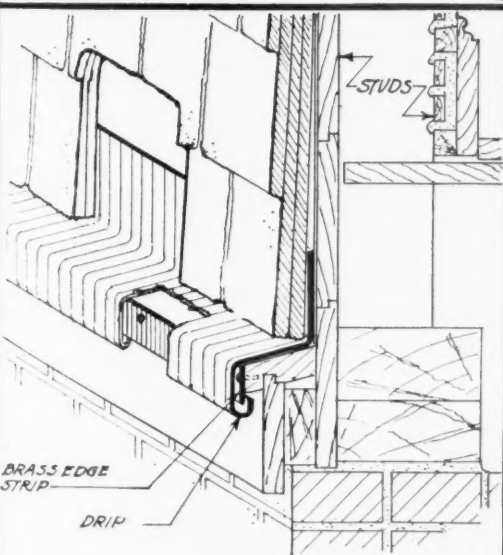
NOTES ON VALLEY FLASHINGS. ⑨



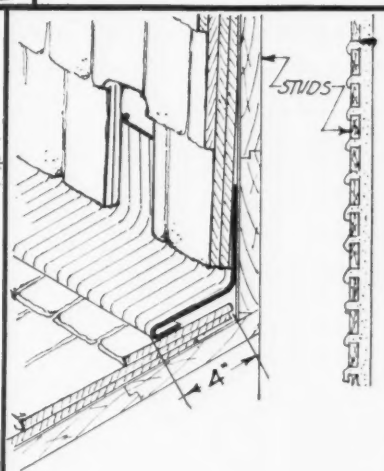
FLASHING FOR DORMER WINDOW SILL ⑩



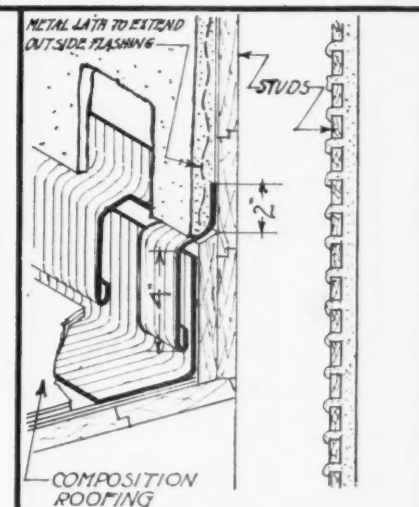
COPPER WATER BAR FOR STONE WINDOW SILL ⑪



FLASHING FOR WOOD WATER TABLE ⑫



FLASHING FOR SHINGLE ROOF AGAINST SHINGLE OR CLAPBOARD WALL ⑬



FLASHING FOR STUCCO WALL ON WOOD CONSTRUCTION ABOVE COMPO ROOF ⑭



HOW DAN DOES IT.

A Department for Passing "Life Savers" along to other Builders.

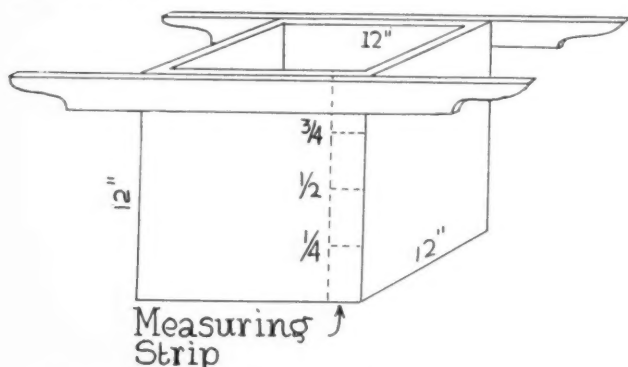
\$2 for an Idea

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is going to edit this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

Measuring Concrete Materials

A MEASURING box constructed either of metal or wood is very convenient for measuring out materials, cement, gravel, sand, etc., in concrete work.



This Convenient Device for Measuring the Proportions of Small Concrete Mixes Is Made to Hold Just One Cubic Foot of Material.

Such a box should have 12 by 12 by 12-inch inside measurements, giving 1 cubic foot of volume. A thin measuring strip, marked and nailed, or one painted inside the box with $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ cubic foot proportions will aid in insuring the correct proportion in odd mixes. Careful measurement of materials is as essential as sufficient mixing in order to get the maximum strength of concrete.

All mixes are by volume of aggregate, and one sack of cement equals 1 cubic foot.—O. P. HAMPSCH, Resident Engineer, Department of Highways, Nashville, Tenn.



Time Saving Templates

WE all know that speed in any piece of work depends upon cutting down the number of necessary operations. In fitting hinges to a door the usual way is with a butt gauge. First you strike a line from the front edge toward the rear, according to the depth, usually $1\frac{1}{8}$ inches on a $1\frac{3}{8}$ -inch door, then another line from the hinge side of the door toward the lock side to tell how deep to make the cut for the hinge. Then you must take the hinge and mark the door on both ends of it. This takes at least three operations.

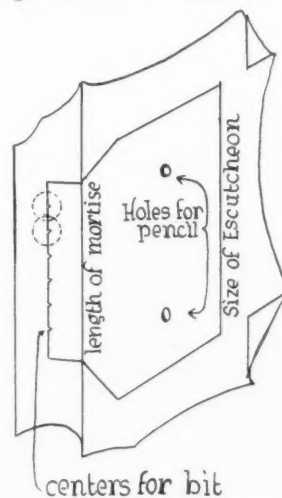
I make a template out of a heavy gauge piece of galvanized

iron the exact size of the piece I wish to cut out of the door for the hinge and bend down in front the exact depth of the cut. Then, by using a knife to mark around the edges I have all three operations done in one and a nice clean knife mark for my boundary lines.

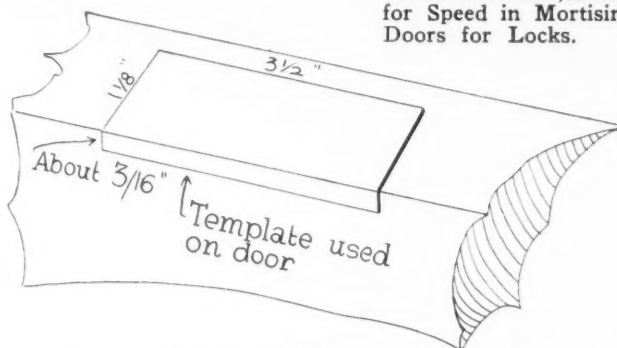
This works excellently because hinges are practically all standard size and should the template need grinding off it is but a minute's work. In fact, a new template can be made with a tin snip about as fast as gauges can be set. And it is right the first time, eliminating guesswork. Since it is customary to set hinges deep in the edge of doors and flush in jambs, I have one for the doors and one for the jambs.

I use the same idea of a template for putting in locks. I find that all common locks have standard escutcheons and that the knob and keyhole are in about the same place.

I therefore make a template which I can use on the edge and side of the door and in one operation I could mark the place for the center of the door knob hole and the keyhole as well as find the length of mortise, the center of the door and the centers of the



This Template, Cut from Sheet Metal, Makes for Speed in Mortising Doors for Locks.



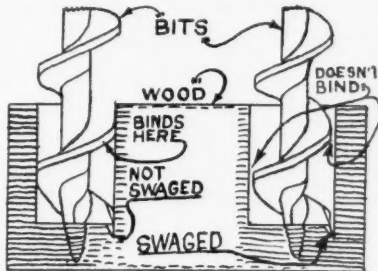
Many Operations Are Eliminated When This Template Is Used to Mark Doors for Hinge Butts. The template can be made in a very short time.

usual six holes used in drilling out the lock mortise.—
P. RANCH, Council Bluffs, Iowa.



Swaging Auger Bits

IT was necessary for one builder to bore a number of holes in some hardwood—but his augers persisted in heating and cutting slowly even though he sharpened them frequently.



Bits Which Bind and Heat May Be Made More Efficient by Proper Swaging.

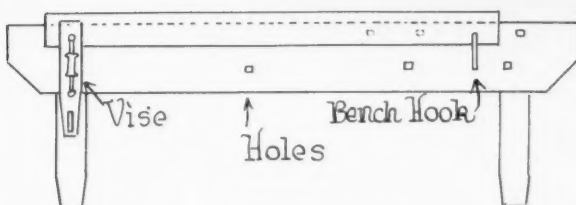
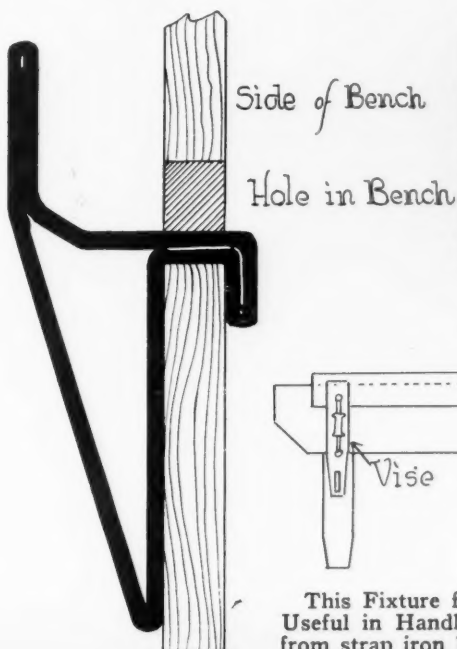
Here is what was wrong: The "swage" had worn off of the cutters and, therefore, the spiral-shaped part of the augers rubbed the wood, as shown in the left-hand part of the accompanying sketch, instead of going freely as does the swaged one shown in the right-hand part of the sketch.

The cutter is bent slightly outward with a small hammer, care being taken not to hit too hard and break it. When "swaged" they will not heat and cut slowly, as will augers or bits that are not swaged.—BUNYAN KENNEDY, McCool, Miss.

A Handy Bench Hook

I HAVE been using a bench stop, such as Brother Hurley of Texas submitted for the September AMERICAN BUILDER for some time and find that it works fine for narrow boards. But for longer and wider boards I use a bench hook which a blacksmith made for me from $\frac{1}{8}$ by 1-inch flat iron in the form shown in the drawing.

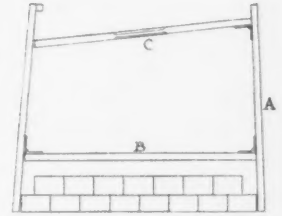
This is used in connection with the vise on the workbench as shown and will take stuff up to $1\frac{3}{4}$ inches. Holes about 1 inch square cut in the side of the bench take care of the adjustments up and down. With the hook 11 inches below the surface of the bench a 12-inch board will be only 1 inch above the bench top. I consider this better than to have the board on top of the bench, because it makes it easier to handle the plane.—FRANK G. WELLENDOFF, Ashton, Mass.



This Fixture for the Work Bench Will Be Found Useful in Handling Long Boards. It can be made from strap iron by any worker in metals.

Brick Lift with Friction Grip

YOUR brick mason's helper will be grateful for one of these convenient lifts, which will do much to lighten his labors. Pieces AA are 10 inches wide below the center board, B, and taper to 4 inches at the top. The handle, C, is 4 inches in width and is shaped to fit the hand, as shown.



The Mason's Helper Will Appreciate This Brick Lift.

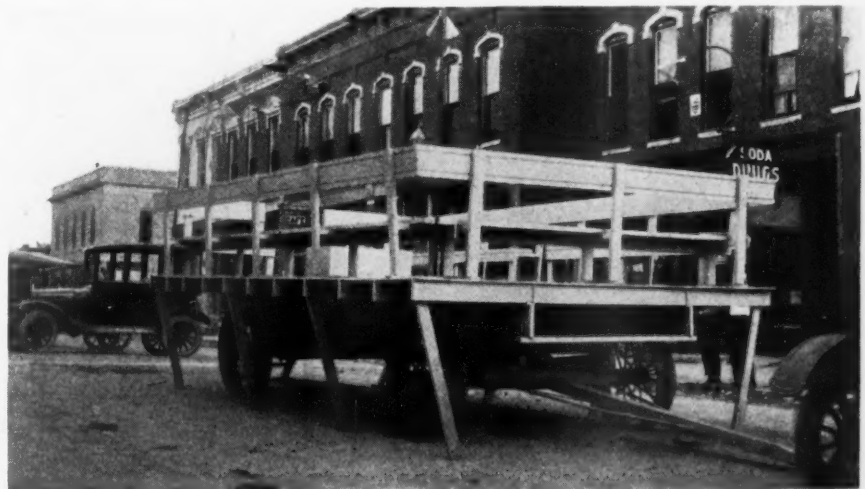
A lift of fifteen brick capacity is shown, but one of eleven brick capacity is preferable. If necessary, bricks can be placed on top the center board, B, also. However placed, the more brick the better the grip of the lift. The height of the lift and the width should be suited to the individual workman.—BERT W. CULBERTSON, Jackson, Mass.



A Portable Band Stand

THE portable bandstand is owned by the town of Weeping Water, Neb. Band concerts are very popular during summer on Saturday nights. However, the town board found that a permanent stand would occupy too much auto parking space and in its stead had built the stand on the truck running gears. Thus, after the concert, it is hauled to a vacant lot.

Upon ordinary bed pieces of two by eights the stand is built something on the order of a hay rack. The sides, however, are only three feet high, while the stand is fourteen feet wide and twenty feet long. The inside is equipped with plank seats. Entrance is gained by a flight of steps at the rear which clear the ground when the stand is being moved because they are hinged and can be hooked out of the way. When they are dropped down they are ready for use.



A Portable Band Stand, Built Upon a Wagon Bed Was the Answer Worked Out by a Nebraska Builder to the Demand for a Band Stand Which Could Be Removed from the Street When It Was Not in Use.

Four two by four braces bolted loosely to each side are dropped down when the stand is in use. These not only prevent the stand from tipping to one side or the other, but add strength and also block the vehicle.

All parts are painted white.—DALE R. VAN HORN, Walton, Neb.

"Crying Room" Is Theater Feature

Mothers with Babes May Enjoy Pictures Without Disturbing Other Patrons,
Thoroughly Unique Arrangement of Portland Picture Theater

By NAOMI SWETT

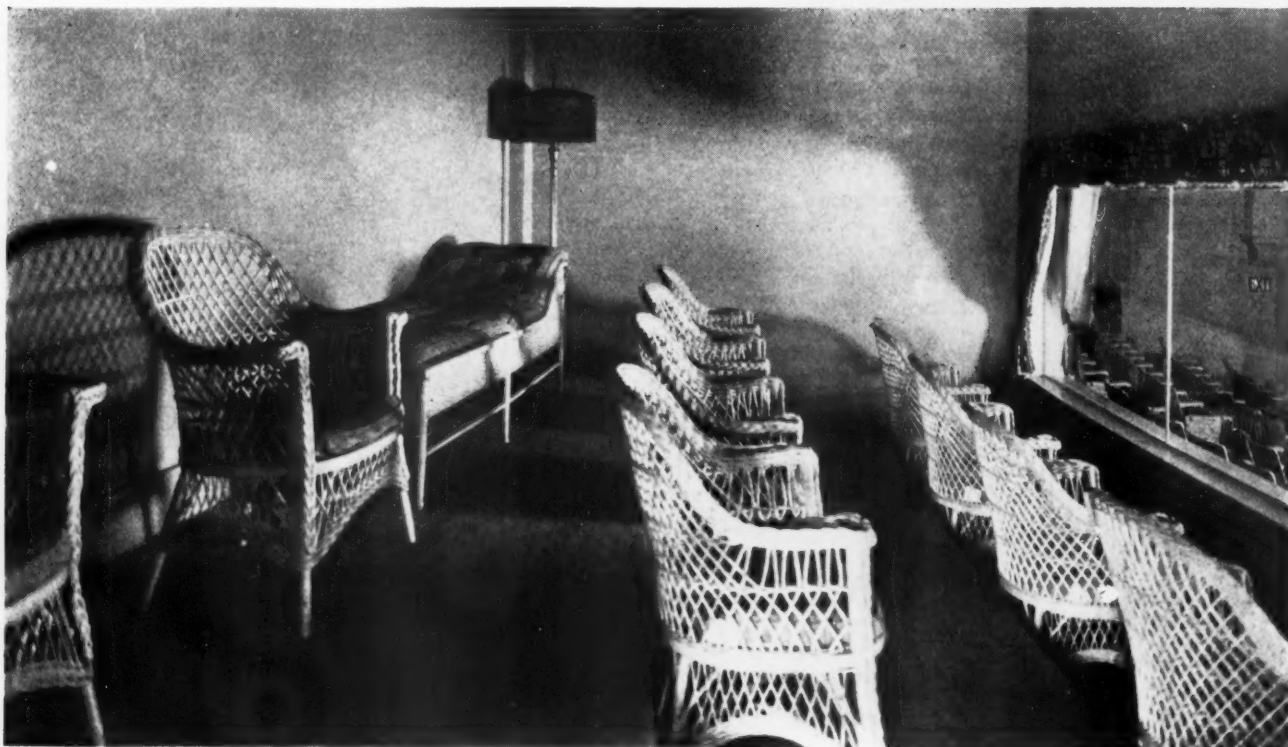
BUILDING a theater in the downtown business section of a city is one thing, but when Lee Thomas, Portland architect, designed the Bob White Theater, recently erected in the Mt. Scott semi-industrial district of this city for Robert White of the Multnomah Theater Corporation, the character of the surrounding suburb was considered carefully. The result has been a picture palace of home comforts.

A unique feature, near the back of the balcony, is a cabin-like compartment appropriately designated as the Crying Room. This has proved a favorite place for family groups to watch the pictures because small children and babies in their company may cry, laugh, and romp about in this room without disturbing other patrons of the house. Equipped with upholstered theater chairs, the room accommodates fifteen to twenty persons. This Crying Room has been the object of many compliments to the management.

The building, 55 by 100 feet, is a fireproof structure of modified Byzantine architecture with hollow concrete walls and composition roofing, costing in all \$60,000. The auditorium stands on the far side of the property from the main street with a convenient exit to a rear alley and two exits with lead lines to the front sidewalk. Total seating capacity is 750, of which the balcony holds 200. These are held the

choicest seats in the house because the balcony is hung extra low to provide a near horizontal sight line to the stage. Both balcony and lower floor are bowled and heavily carpeted. The interior walls are finished in a Caen stone effect with decorative panels.

A force ventilating system providing a change of air every six minutes, a gas heating plant, and an indirect lighting system are features which afford a maximum of comfort to patrons at all times. Men's and women's rest rooms and a men's smoking room are situated in the rear of the balcony.



Children May Cry, Play and Be Children While Their Parents Watch the Pictures in this "Crying Room" of the Bob White Theater in Portland, Ore. The location of the room is shown in the picture above, where it may be seen to the left just back of the balcony seats.



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INSTRUCTIONS IN ROOF FRAMING

LESSON TWELVE—By JOHN T. NEUFELD

EDITOR'S NOTE: *The question of correct roof framing seems to be one of perennial interest among our readers, if we are to judge by the number of questions and answers on that subject which are sent in monthly for the Correspondence Department. AMERICAN BUILDER therefore conducts this department for the benefit of its readers who may have roof framing problems. Write in your problem and Mr. Neufeld will answer it, and some questions and answers will appear in this department of AMERICAN BUILDER for the benefit of others who may be interested. We want to make this department the place where YOU can solve your roofing problems.*

Review

IT is very often desirable to have the rules for certain cuts in brief form so that they may be found without going through an extended discussion of the subject.

The following brief rules will be found handy in this respect:

Pitch of Roof

The **PITCH** of a roof is the slant or slope from the ridge to the plate.

The **MEASURING LINE** is a temporary line usually marked along the rafter on which the length of the rafter is measured.

To **FIND THE PITCH** of a roof divide the run by the span.

To **FIND THE RISE** of a roof multiply the pitch by the span.

To **FIND THE SPAN** of a building, if the rise and the pitch is given, divide the rise by the pitch.

To **FIND THE RISE PER FOOT RUN** multiply the pitch by 24.

Length of the Common Rafter

The lengths of the common rafter may be found by any of the following methods:

(a) **THE SQUARE ROOT METHOD.**

The length of the rafter is the square root of the run squared plus the rise squared.

(b) **THE LENGTH PER FOOT RUN METHOD.**

The length of the rafter is the length per foot run times the total run in feet.

(c) **MEASURING ACROSS THE SQUARE.**

Take the total run on the blade of the square and

the total rise on the tongue of the square and measure across between these two points to get the length of the rafter. (Let inches stand for feet in this rule.)

(d) **APPLYING THE SQUARE.**

Take 12 inches on the blade of the square and the rise per foot run on the tongue of the square and apply the square to the rafter as many times as there are feet in the total run of the rafter.

Common Rafter Cuts

THE TOP OR PLUMB CUT is the cut at the upper end of the rafter where it frames against the opposite rafter or against ridge board.

THE BOTTOM OR SEAT CUT is the cut at the lower end of the rafter where it rests on the plate.

To obtain the seat or plumb cuts for the common rafter use 12 inches on the blade of the square and the rise per foot run on the tongue of the square. For the seat cut, mark along the blade and for the plumb cut mark along the tongue. The total run of the rafter and the total rise of the rafter will also give the seat and plumb cuts.

The Length of Hip Rafter

(a) The length of hip rafter is the square root of the run of the hip rafter squared plus the rise squared.

(b) The length of hip rafter is the square root of the length of the common rafter squared plus the run of the common rafter squared.

(c) The length of hip rafter is the length of hip per foot run of common (taken from tables) times the total run of common rafter.

(d) The length of hip rafter can be found by taking the total run of the hip on the blade of the square and the total rise on the tongue of the square (letting inches represent feet) and measuring across between these two points.

(e) The length of hip rafter can also be found by taking the total length of common rafter on the blade of the square and the total run on the tongue of the square and measuring between these two points.

The seat and plumb cuts for hips are obtained by taking 17 inches on the blade of the square and the rise of the hip rafter per foot run of common rafter on the tongue of the square marking along the blade for the seat cut and along the tongue for the plumb cut.

For the side cut of the hip rafter take the length of the hip rafter on the blade of the square and the run

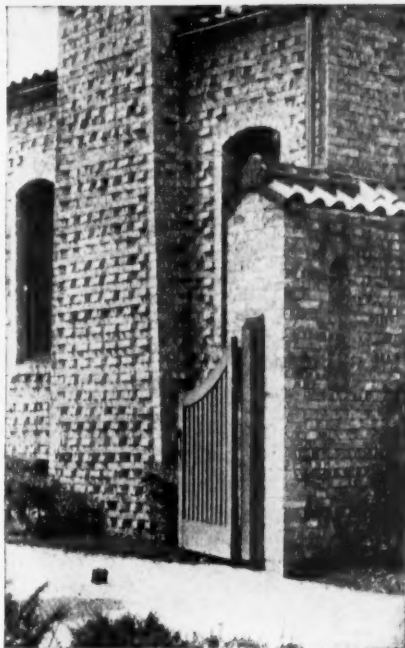
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New Surface Effects That Make Uncommon Homes with Good Old COMMON BRICK

You would never guess that the wall to the left is Common Brick. The irregular surface secured by the skillfully worked out pattern gives a unique antiqueness quite in keeping with the design of the home.

Mortar is used in the wall illustrated at the right in a quite out of the ordinary way. This home is in one of Chicago's most exclusive residential districts. In this instance Common Brick was used for its beauty alone.



The illustration at the left shows a corner of an attractive bungalow in which the brick project at various angles. The effect is far from ordinary, yet low-priced Common Brick is used for this wall.

The porch at the right illustrates a more conservative variation. These illustrate only four of the many new, novel and antique effects that have been produced by leading architects in Common Brick work.



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of the hip rafter on the tongue of the square or take the length of hip rafter per foot run of common rafter on the blade of the square and 17 inches (which represents the run of hip per foot run of common) on the tongue of the square. In both cases mark along the blade of the square.

To find the backing of the hip rafter take the length of the hip rafter on the blade of the square and the rise of the hip rafter on the tongue of the square. Mark along the tongue or take the length of the hip rafter per foot run of common rafter on the blade of the square and the rise per foot run on the tongue of the square and mark along the tongue. These markings must be laid out on the back of the hip rafter and the distance or the bevel found must be transferred to the side of the rafter.

The cuts for valley rafters are the same in all cases as for hip rafters.

Plumb and Seat Cuts for Jack Rafters

The plumb and seat cuts for jack rafters are the same as for common rafters. Take the run of the rafter on the blade of the square and the rise of the rafter on the tongue of the square or take 12 inches on the blade of the square and the rise per foot run on the tongue of the square. Mark along the blade for the side cut and along the tongue for the plumb cut.

Side Cuts for Jack Rafters

(a) For even pitched roofs take the length of the jack rafter on the blade of the square and the run of the jack rafter on the tongue of the square; mark along the blade.

(b) Take the length of the common rafter on the blade of the square and the run of the common rafter on the tongue of the square; mark along the blade of the square.

(c) Take the length per foot run of common rafter on the blade of the square and 12 inches on the tongue of the square; mark along the body.

(d) For uneven pitched roofs take the length of the jack rafter on the blade of the square and the distance from the seat of the jack rafter to the seat of the hip rafter on the tongue of the square; mark along the blade.

Vertical Drop of Hip Rafter

To get the vertical distance that the hip rafter must be lowered in cases where it is not backed, multiply the rise in inches of the hip rafter per foot run of common rafter by one-half the thickness of the hip rafter, *taken in feet*.

The numbers to be used for the cuts on the roof boards are the same as those used for the side cuts of the jack rafter.

(a) Take the length of the common rafter on the blade of the square and the run of the common rafter on the tongue of the square; mark along the tongue.

(b) Take the length of the common rafter on the blade of the square and the distance from the seat of the first common rafter to the seat of the hip rafter on the tongue of the square; mark along the tongue.

Review Questions

Assume the roof in the illustration has a 9-inch rise per foot run.

1. What is the pitch of the roof expressed as a ratio of rise to span?
2. What is the length per foot run for this pitch? (See table given in March lesson or work out by square root.)
3. What is the total length of common rafter to the center of the ridge board?
4. What numbers are used on the square for the plumb and seat cuts of the common rafter?
5. What is the length of the hip or valley rafter per foot run of common rafter?
6. What is the length of the hip rafters on the addition?
7. What numbers are used on the square to get the plumb and seat cuts for the hip and valley rafters?
8. What numbers on the square give the side cuts for the hip and valley rafters?
9. What numbers on the square give the backing of the hip or valley rafter?
10. What is the length of the long valley?
11. What is the length of the short valley.
12. What numbers give the side cuts for the jack rafters?

Answers to these problems will be found on page 170.

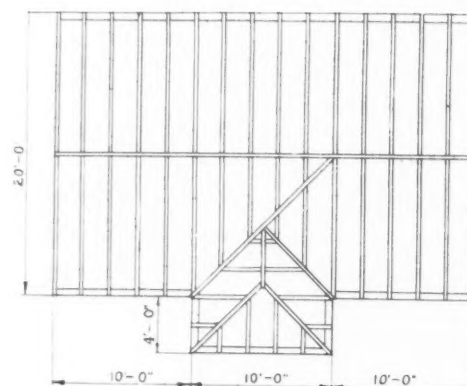


Fig. 50. Roof Used for Review Problems.

PEERLESS

Coal Chutes



The Trouble and Danger of This Replaced by the Ease and Safety of This

THE Peerless Automatic Coal Window, in the opinion of architects who specify it and dealers who sell it, is the best designed Coal Window made. It adds to the appearance of every type of building in which installed.

But the Peerless does not stop there. To good design it adds the all-important factor of *Safety* and the heretofore neglected item of *Convenience*.

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The illustration best explains the convenience of the Peerless.

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Dealers: Write for proposition.

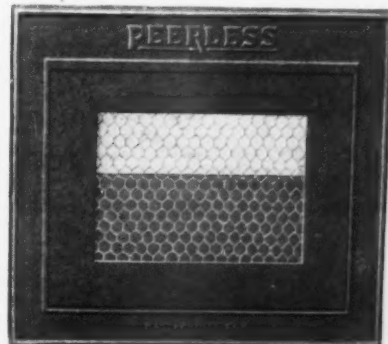
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A Substantial Small-City Home

Careful Planning and Utilization of Modern Equipment are as Much in Evidence in This Home as in Those Built in Larger Cities

THOSE who believe that the better class of residence building in the United States is confined to the larger cities and their suburbs, will do well to study the details of this home which has been erected in Astoria, Ill., for Mr. H. S. Bucher.

The exterior of the home is pleasant because of the simple lines and good proportions, but it is in the interior that the care has been expended which makes it possible to classify this residence as one of those "homes which make you love to live."

The livable and convenient arrangement of the rooms is apparent from the floor plans, which show the good proportions of the living room, with its fireplace and a large sun porch; the built-in conveniences of the kitchen and the pleasant breakfast room.

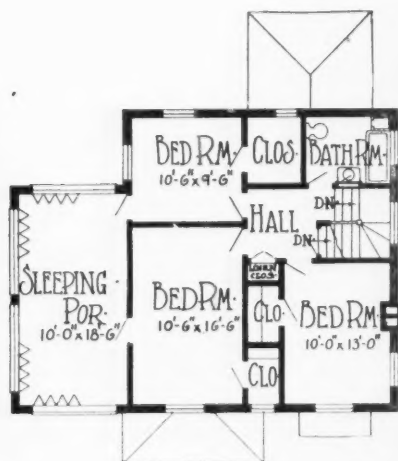
An interesting feature of the home is the window installation in the sun porch and the sleeping porch

on the second floor. Through the use of a modern and ingenious system of hanging windows, all of the sash may be brought back to the corners of the openings, leaving virtually the entire sides of the porch open to the air as shown in the illustration of the sun porch shown below. Since the sash swing inward there is no interference with the screening of the window openings. Beautiful drapes are attached to each individual sash and fold as the windows are folded.

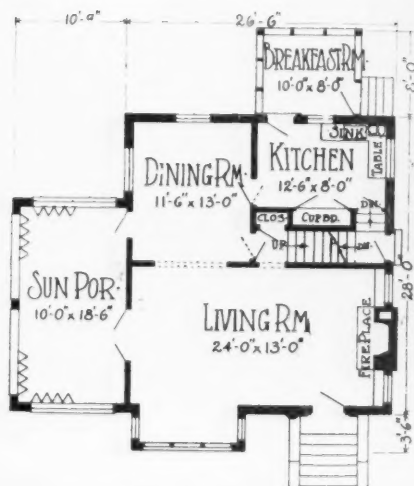
Mr. Bucher's residence was designed by Aldrich & Aldrich, Architects, Galesburg, Ill.; building done by William Burgard, Astoria, Ill.; masonry by Arthur Perry, Astoria, Ill.; interior decoration by E. C. Pierce, Abington, Ill.



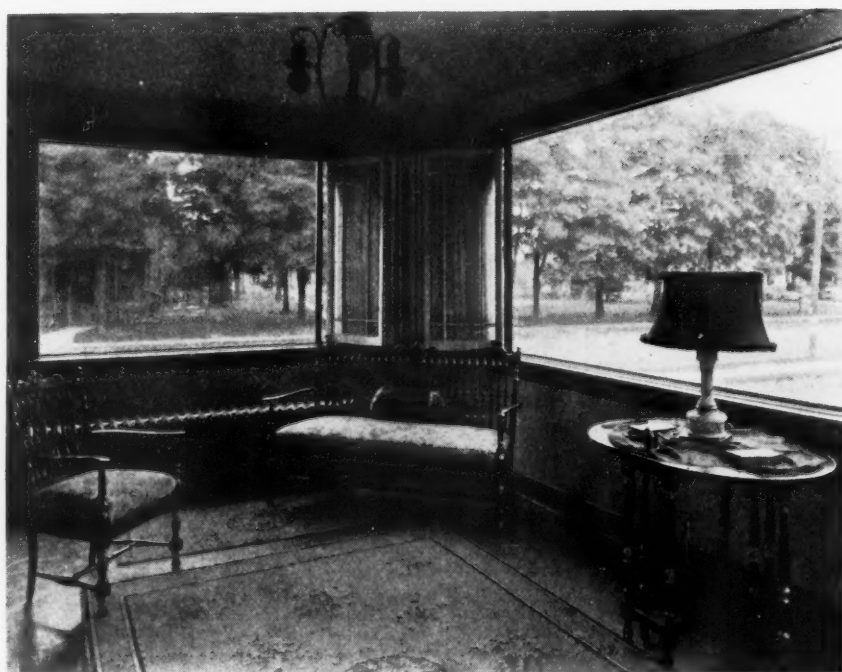
The Exterior of the Bucher Home.



Second Floor Plan



First Floor Plan



An Ingenious Window Installation Allows This Sun Porch to be Opened Wide to the Breezes or to Be Closed Tightly Against Winter Weather.

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Structural Gypsum Developed

Dense Gypsum May Be Used for Forming Walls and Partitions; Successfully Withstands Severe Fire Tests

WITH the perfection of a new form of dense structural gypsum, it now is possible to build fireproof bungalows or two-story dwellings entirely of gypsum from the foundation up. Bearing walls, partitions, floors and roofs, all can be of this incombustible material. The significance of this new development is that it makes a highly insulated, fireproof construction available for small dwellings at a cost that compares favorably with that of ordinary frame construction.

Fireproofing, heat and sound insulation, bearing strength, light weight, quick set and consequently rapid erection, adaptability to any floor plan and any architectural treatment are the advantages claimed for this material.

Its fireproof quality was established by fire and water tests conducted in December, 1923, at Columbia University. A panel 3 inches thick, 9 feet wide and 14 feet long was subjected to an average temperature of 1,700 degrees F. for one hour. As soon as the fire test was completed, a 1½-inch stream of water with a pressure of 30 pounds was turned onto the exposed side of the panel from a distance of 20 feet. These are the conditions which brick, concrete and similar constructions must meet to be approved as fireproof under the Building Code of the City of New York, and following its successful passage of all requirements the dense gypsum was given that approval.

During this test, while the temperature on one side of the panel was 1,700 degrees F., that on the other side never exceeded 210 degrees. This shows the insulating value of the material, its ability to keep heat in and cold out, and the consequent ease and inexpensiveness of heating a dwelling built of it. Further economies are effected in insurance costs, since this type of dwelling is entitled to the lowest possible insurance cost.

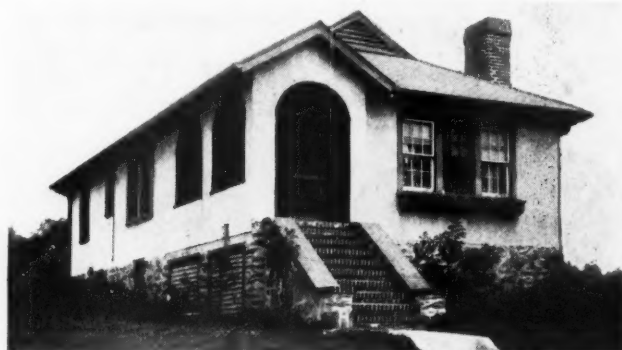
As to sound insulation, tests conducted at the Lewis Institute, Chicago, have established that gypsum partitions are 60 per cent more effective as non-conductors of sound than other tile partitions.

Load-bearing ability depends on a material's compression strength and this varies, in the case of gypsum, with its density. The new material is a form of gypsum finely ground and treated chemically to increase its density so that it has a compression strength, when mixed without cinders and sand, of 2,500 pounds per square inch as against the 800 pounds compression strength of ordinary gypsum. The manufacturers recommend that it be mixed by hand or mechanically, in the proportion of 1 part, by volume, of sand and 3 parts of clean, well graded cinders to 1½ parts of the ground gypsum. In these proportions its ultimate compression strength is at least

500 pounds per square inch, which permits of a factor of safety of 10 in ordinary residential design.

The gypsum composition weighs only 85 pounds per cubic foot, while the weight of portland cement concrete is 150 pounds. This fact means considerable savings in designing the other parts of the structure.

Whereas other concrete takes days to harden so that the forms can be removed, unretarded, the dense gypsum sets in



The Pleasing Effects Possible Through the Use of the New Gypsum "Concrete" May Be Seen in This Illustration.

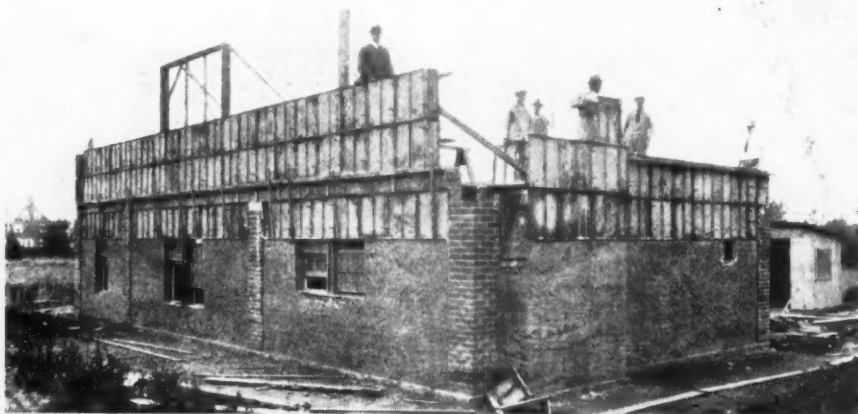
15 minutes. This set can be retarded at the factory to meet any job requirements. At the completion of its set it has acquired 60 per cent of its ultimate strength and the forms can be removed, making for rapid erection and decreasing the builder's investment tied up in forms.

A typical "all-gypsum" house may be described as follows: Its foundation of masonry or cement is carried at least 18 inches above the grade-line. This is to prevent water-absorption, since gypsum concrete is not a water-resistive material and its insulating quality is decreased by absorption. The top of the foundation is given a coat of damp-proofing compound, then the forms are adjusted and all the exterior walls and partitions are carried up simultaneously. If it is a bungalow the outside walls are at least 6 inches thick; if two stories high, 8 inches or more. Partitions are 3 or 4 inches thick and closet walls, 1¾ or 2 inches. All corners and openings are reinforced by steel rods or steel web fabric.

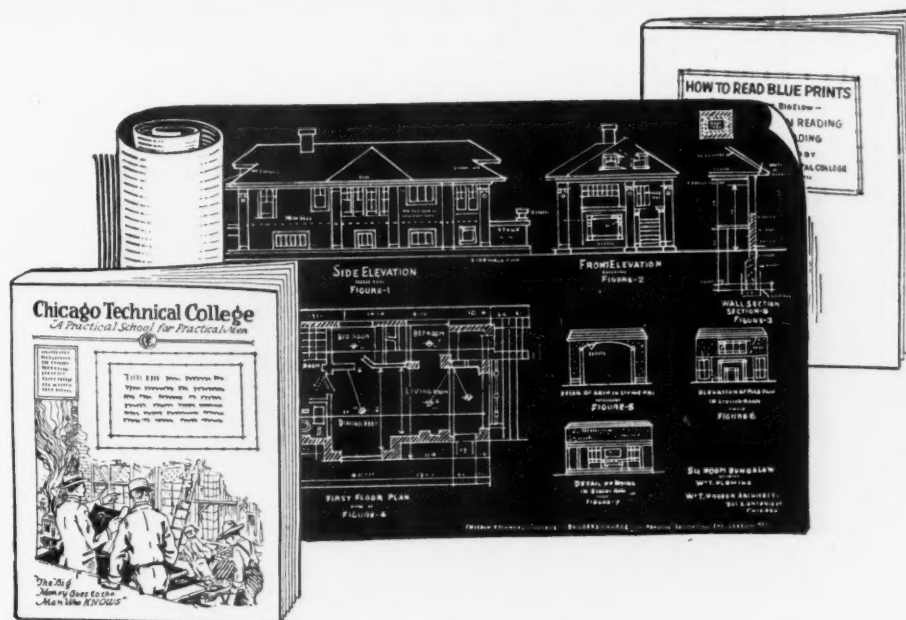
Like wood, hollow tile or concrete buildings, this frame must be finished on both the inside and the exterior. Plaster may be applied directly on all interior walls. This eliminates the cost and fire-hazard of wood lath as in timber construction or of furring strips and lath as on concrete or tile walls.

Further big cost-savings result from the fact that ¾-inch two-coat plaster work is required over the new material as against ¾-inch three-coat work in other types of construction.

After the removal of the forms, the outside walls must be given a coat of damp-proofing compound. If drop siding is chosen for the exterior finish, vertical furring strips are nailed directly to the wall and the lumber is nailed to these. If a brick veneer is desired, anchors may be either driven into the wall or cast in place, to be imbedded in the brick course. If the finish is to be stucco, a 4 by 4-inch electrically welded wire fabric is stapled on and then covered with ¾ inch of approved stucco.



A Building of the Structural Gypsum in the Process of Construction. Note that the forms in which the material is poured are still in place at the top of the wall.



SENT FREE

Mail the Coupon for These Two Books and Blue Print Plans

If you are in any building trade, we want to send you these 2 books and blue prints at our expense. One of these books contains a lesson in Plan Reading prepared by the Chicago Tech. experts; the other explains the Chicago Tech. method of training men by mail in the building trades for the jobs that pay the most money or for businesses of their own. All you have to do to get them is to mail the coupon. Don't send a penny.

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You may be as good a man as there is in the use of tools but as long as you remain a workman you won't earn more than the wage scale. It isn't manual skill that puts a man in big pay class—it's the ability to use his head that brings the fat pay check or enables him to "go in for himself." That has been proved over and over again by workmen who took the Chicago Tech. training in the higher branches of building and are now foremen, superintendents and contractors.

J. B. Woodside of Oklahoma was a carpenter working for \$6 a day when he took a course in training by mail at Chicago Technical College and was advanced to a foremanship in 2 months, became a superintendent 5 months later and then went into contracting.

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Never before have there been such opportunities as there are right now for men with expert knowledge of building. You can get ready for these big opportunities if you will use some of your spare time to study at home under the direction of the Chicago Tech. experts. No time taken from your present work. All this will be explained when we send you the free books and blue prints.

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Also special courses in Architectural Drafting for builders, taught by practical men. These explained in Special Catalog "D" sent on request.

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CORRESPONDENCE

Questions Answered—Ideas Exchanged

A Mid-Winter Night's Dream

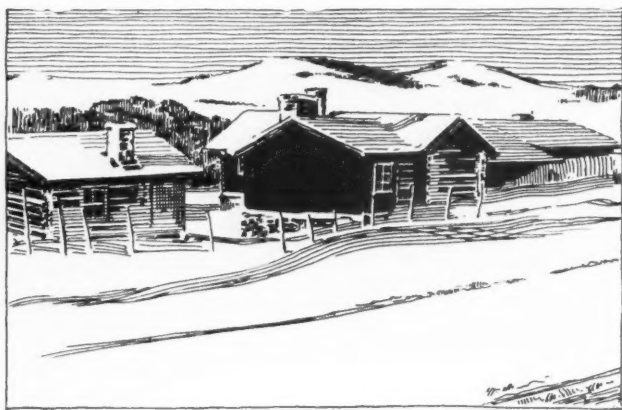
To the Editor:

Chicago, Ill.

Now that the doctors assure us that a moderate amount of day dreaming may prove stimulating and not demoralizing we can put a few more chunks of wood on the fire and refill our pipes. The early fall of snow anticipates the evenings by the fire and the dreams of next spring, and the possibility of fulfilling day dreams makes their enjoyment keen.

The pages of a book of Scandinavian photographs kept me awake so thoroughly last night that I sat up late sketching the simple outlines of those homely buildings. Look at the pictures and sketch them. It brings them into your possession. These buildings were long and low with up-ended and straight log walls, with interlocking log partitions, and block-like chimneys. There were hills and timber in every picture, snow with tracks but no footprints, and the shadows so long that even in the best light the sun must have been well down.

There was a familiarity about the outlines that reminded me of another home, in this country, built by a Dane. Last winter this gentleman sat by his fire and turned over in his mind the possibilities of a little triangular strip along the shore of a big lake. He had bought that plot and a little more to build a summer home and develop his latent abilities in landscape work. The land had wonderful advantages in young and old



A Norwegian Winter Scene Which the Writer Finds Similar to a Summer Home Built in the United States and Has Sketched for the Benefit of the Readers of the Correspondence Department.

timber, contours, and prospect. It also had one log barn and one or two log outhouses. This gentleman plotted with certain results; his day dreams began to take form in April, and by the end of June the summer home was near completion.

In that community the homes are small when regarding the landscape, and most of them seem to grow out of the ground. When the new place came in view it seemed so in accord with its surroundings that the native comment was: "Thank the Lord the doctor bought it. He's got a great place there, and he hasn't ruined the landscape."

The log building was transformed into an immense living room or "house" with a long screened porch to the east. A stone fireplace of proportional size filled one end of the room, and you can dream the rest. The addition of bedrooms, dining room, kitchen, and laundry was brought under the

same low roof, with a pole rafter pergola running the full length to the east. The stone foundation was continued in yard walls, breast high, with enough embedded loam to nourish vines and flowers. The rampant color from these furnished the contrast for the gray timber of the house. The paths and flowers spread to new and old outbuildings, garage, work shop, small ice house, and the boys' cabin. All were united



This Summer Home Was Built After a Winter of Considering the Best Method of Utilizing a Plot of Ground.

in a group of homeliness that was easy to look at. In studying the location the doctor found that he could grow many early varieties of flowers in that cold but snow-covered territory that he could not grow farther south. He is planning a riotous growth along a cultivated creek that crosses his acres. He will have flags and flags.

His winter dreams were to the purpose. With simplicity in mind and no cross purposes he has come onto a mine of beauty. So it isn't such a bad thing to anticipate in day dreams.

V. L. SHERMAN.



Who Has the Answer?

To the Editor:

Montgomery, Ala.

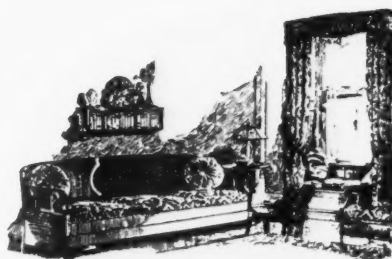
We want to get some information relative to the proper size, mixture, and reinforcing of concrete footings required under the average one-story frame, and brick veneer houses, when such houses are built on what is termed "Prairie Soil," which soil contains a great deal of lime substance, and which has a tendency to crack and move.

In a new division called Cloverdale all of the soil is as stated above. We as builders, as well as other builders and architects of this city, have experienced considerable difficulty in keeping residences built upon this soil from moving, even with concrete footings 12 by 30 inches—reinforced with some six ¾-inch deformed steel rods—such footings being carried to such depth as to what was thought was the best part of the soil. This footing extends all around the house, and under center wall piers.

If you can furnish us with any kind of information or diagrams (made up from experiences of other builders in other localities, for the same soil conditions) that would help us, we would appreciate it very much.

S. K. FLEMING HOME BUILDING CO.,

By Paul H. Hinds.



One way to save in building costs

Build one room less and put a Davenport Bed in the living room to take the place of that room. Thousands of the better homes have Davenport Beds.

Simply a good davenport with a bed built into it; a good bed too—a regular bedspring on which you put a regular mattress and bed-clothing which are in place but out of sight during the day.

Scores of styles in mahogany finish, walnut finish or oak, upholstered

in tapestries, velours, mohairs or other fine upholstery fabrics, or in leather. Match your present furniture or buy a Davenport Bed with chairs to match.

Ask at the furniture store. Have them show you a variety.

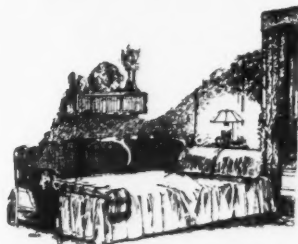
Write for 'The Home in Good Taste', mentioning the name of your furniture store if you wish.

DAVENPORT BED MAKERS OF AMERICA
(more than 80 individual manufacturers)
1143 Standard Oil Building : Chicago

The DAVENPORT BED

SERVES BY DAY AND BY NIGHT

Copyright 1924 D B M of A

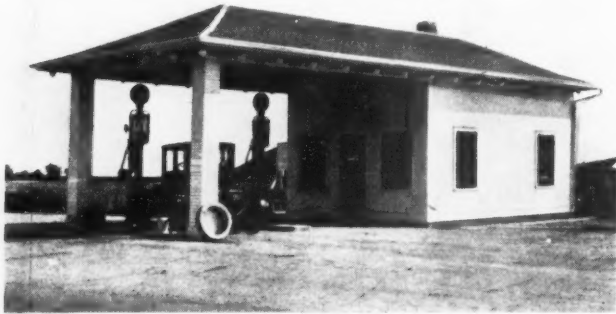


A Nebraska Filling Station

To the Editor:

Waterloo, Neb.

I am enclosing a snapshot of a filling station that I helped to build. It is located on the Military Highway at Elk City, Neb., about twenty miles from Omaha, Neb. The station was built by Henry Meyer & Son of Elkhorn, Neb.,



Filling Station Built at Elk City, Neb., by Henry Meyers & Son, Elkhorn, Neb.

for Jack Bogan, of that place. While building has not been very lively around here, we have been quite busy for some time.



FRANK GOODWIN.

American Tools the Best

To the Editor:

Dundee, Scotland.

Herewith I am sending my subscription for another year for the AMERICAN BUILDER, which I feel I cannot do without now. There seems to be a reluctance on the part of some of the American firms advertising with you to have anything to do with business over here.

I saw an advertisement for a machine and wrote about it with a view to buying one of them, but have received no answer, also certain carpenter tools which it is impossible to buy here, as this is a semi-dead country. This is rather annoying when one has been used to certain American tools which were purchased in Australia, and when these are broken or lost, or "pinched," it is almost impossible to get these replaced. To come down to "hard tacks," I have been asked a few times by other carpenters for an axe like my own which is what we call a "single side axe," and which I think is called a "side axe" in U. S. A., or one which has its blade ground on one side only with a flat back, much the same as a wide chisel. This can't be got here except in very heavy sizes, which are unpopular. While on this subject, I have another question. Is it possible to obtain this axe right and left handed? (Hope this is clear to you.) Another article which can't be had is an all-steel wood chisel for severe work, or "bashing," as it is termed here. The tool dealers here are not progressive, being in most cases glorified ironmongers and not specialists in any line of tools and most American tools of quality are unknown to them.

I have been instrumental in getting some of the tools which I use myself for brother carpenters who have seen me use these from certain large firms here and if I had some capital at my back to get samples, etc., I would not waste much time in getting into the business of supplying the tools. I find that the carpenters here are progressive enough to recognize the value of certain tools which are time and trouble-savers, but when they set out to buy them they are met with disappointment.

I am a working foreman carpenter, but have a keen desire to enter the tool business, and am already into the latter in a small way.

Another scheme which I have had in my mind is: Most of the advertisers in your magazine advertise handbooks which are valuable textbooks in up-to-the-minute methods in the building trade. I have applied for some of these and they have been sent free of charge to this country.

I could do with some of the others, but hesitate to do so as there is no hope of any business resulting from the sending of them to the firms who publish them from this side, but the information contained in them is of such a valuable nature that I would very willingly pay something for them and defray cost of postage as well.

Finally, I should be only too pleased to receive any particulars of any new and up-to-date tools for carpenters and if desired to introduce them here.

I thank you for past favors, and assuring you of my great appreciation of the magazine which you publish.



ROBERT C. JAMES.

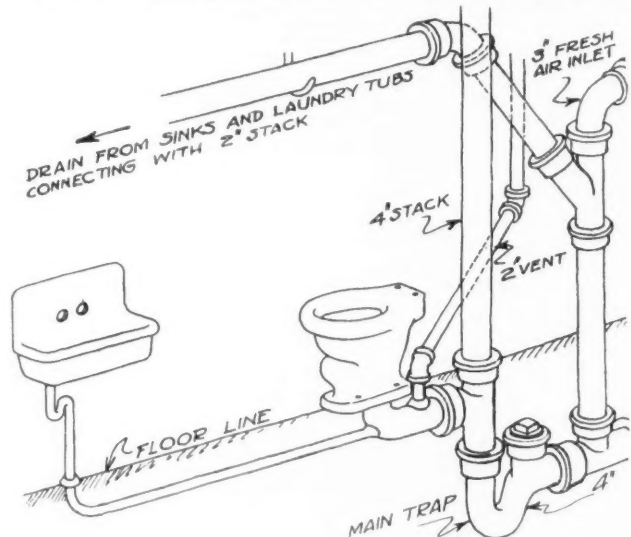
"What's Wrong with the Picture"

To the Editor:

Chicago, Ill.

Perhaps few builders could qualify as sanitary engineers, or even plumbers, but the builder well versed in the "common laws" of plumbing is pretty well insured against error and waste in that line. You might add that any builder who knows and appreciates the "common laws" of plumbing is a man who knows and appreciates soundness in all of the branches of building.

A friend who accounts for a great deal of work in the plumbing line brought over some sketches the other day. There was quite a variety, including office buildings, flats, factories, small and large homes. It seemed rather odd after looking them over that every last sketch was wrong in some particulars. In questioning him about the assortment of misfits I drew out quite a story. It seems he has many more of the same kind of sketch which he presents periodically to the men under him. They are in the form of blue-line prints, and the men must go over each sketch and correct the mis-



What's Wrong with This Picture? Making his men correct faulty diagrams is one man's method of keeping them on the alert for errors. Who will correct the error shown here?

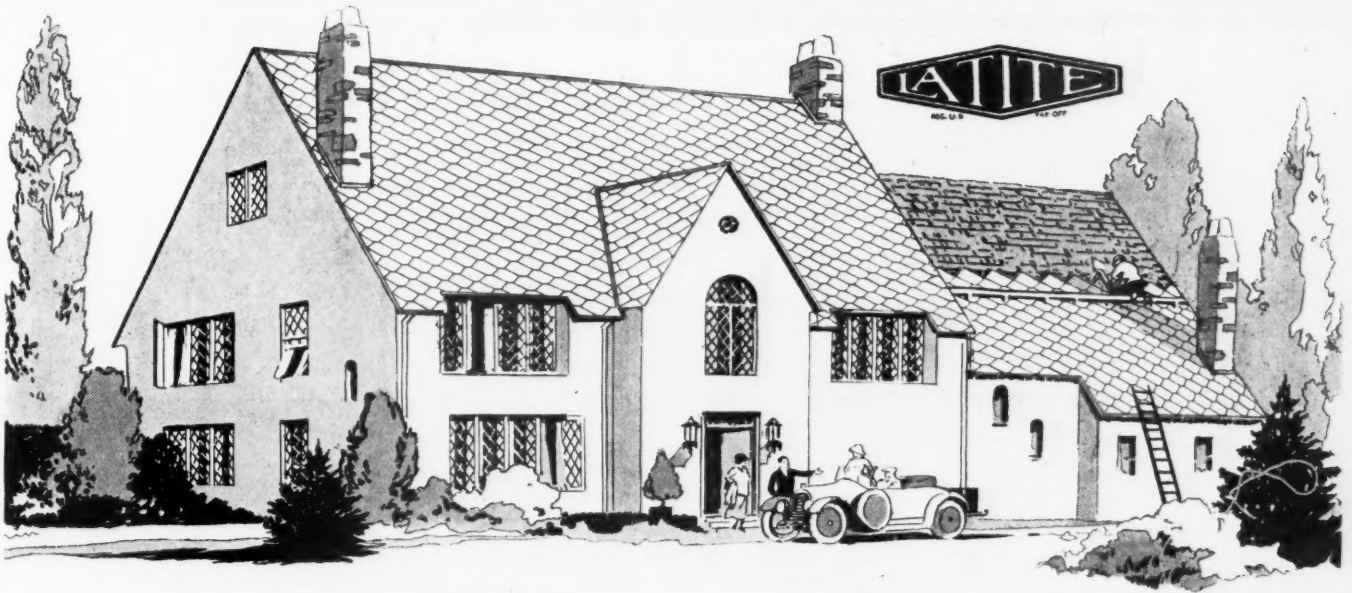
takes. They must not only show the errors, but correct the mistakes. If the plumbing is arranged in excess of the necessary work, it must be cut and rearranged. On a separate sheet the errors must be explained and the theory of the correction given. Not a bad idea to keep the men on their toes.



V. L. SHERMAN.

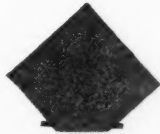
Send It In

SEND your peculiar construction problems to the Correspondence Department where you can receive the benefit of the combined experience of your fellow readers. Send your unique experiences to the department that others may profit by them. Send the pictures of the buildings you are proud of to the department. It is for your instruction and entertainment.

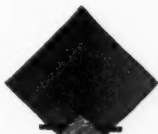


Winter doesn't matter now!

You can re-roof in the "Genasco Way"



Front View of a Genasco Latite Shingle. In three natural, unfading colors—red, green and blue-black.



Back View of a Genasco Latite Shingle showing the "key" that locks them firmly and flatly to the roof deck.

What if rain does fall—or icy winds blow—while you are re-roofing! Genasco Latite Shingles are laid without disturbing the old roof—*without ripping off a single old shingle.*

Think of it—a new roof right over the old! No exposing a building, even for a moment, to possible damage by weather. And you avoid, too, the nuisance of having lawns, walks and attics littered with broken shingles and old nails.

In addition you get a strong, weather-tight, FIRE-SAFE roof that is locked on—that storms can't budge. A patented "key" device clamps each Genasco Latite Shingle tightly to those underneath.

Genasco Latite Shingles are built on a foundation of tough, long-fibred rag felt. With their heavy water-proofing layers of Trinidad Lake Asphalt Cement and their crushed slate surfacing, these remarkable shingles are practically immune to damage by weather.

We have interesting booklets describing in detail these shingles and other roofings of the Genasco Line. Gladly sent to builders on request.

THE BARBER ASPHALT CO.
PHILADELPHIA

NEW YORK
ST. LOUIS

CHICAGO
KANSAS CITY

PITTSBURGH
SAN FRANCISCO

Genasco Latite Shingles

ELECTRIFY ALL BUILDINGS

A Department of Up-to-date Information
for all who Plan and Build

A One Firm "Home Electric"

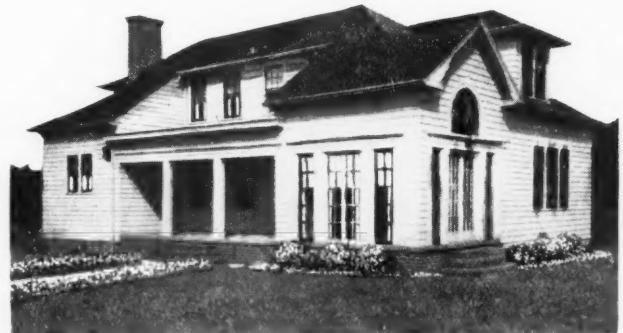
Hunter Brothers, Electrical Contractors and Dealers of Fayetteville, N. C., Assume
Entire Responsibility for Building Demonstration Home

By T. M. HUNTER

EDITOR'S NOTE: Electrical demonstration homes are a subject of especial interest at this time, when electrical dealers and contractors are considering banding together to promote such an exhibition. All in the electrical industry will be interested in the story of how the Hunter Brothers Electrical Company of Fayetteville undertook and carried to successful completion the financing and building of such a home. Both of the members of the firm, W. L. Hunter and T. M. Hunter, are more than satisfied with the results of the venture. Here is the story in Mr. Hunter's own words:

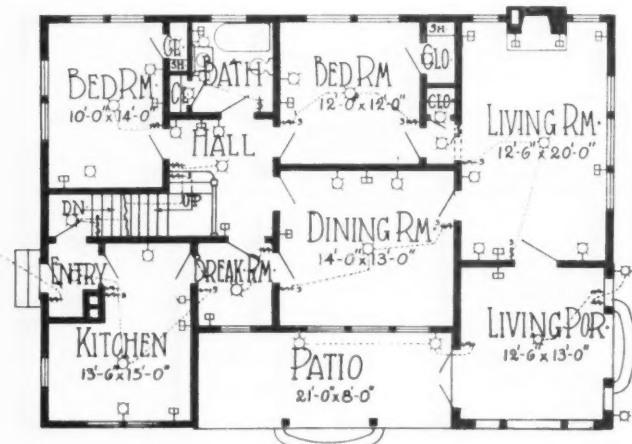
EVER since little Jack Horner sat in the corner eating his Christmas pie the proof of a pudding has been the eating. In short the "show me" crowd comprises a large part of the population of the United States.

Four years ago when we started in the electrical business we desired to sell large and complete household installations. We wanted to completely equip new homes with desirable and up-to-date apparatus. More and more as these desires grew we felt the need of some place where we could show the home builder what we meant when we said, "A Home Electric."

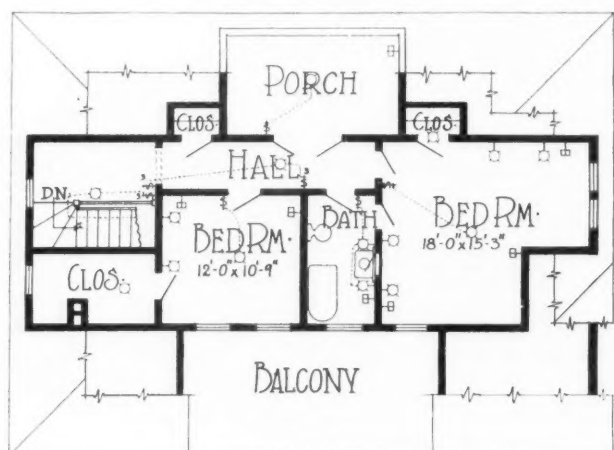


The Attractiveness and Excellence of the Hunter Brothers Home Electric Was Not Confined to the Electrical Details, as This Illustration Shows. The pleasing lines and inviting porch are worthy of any home.

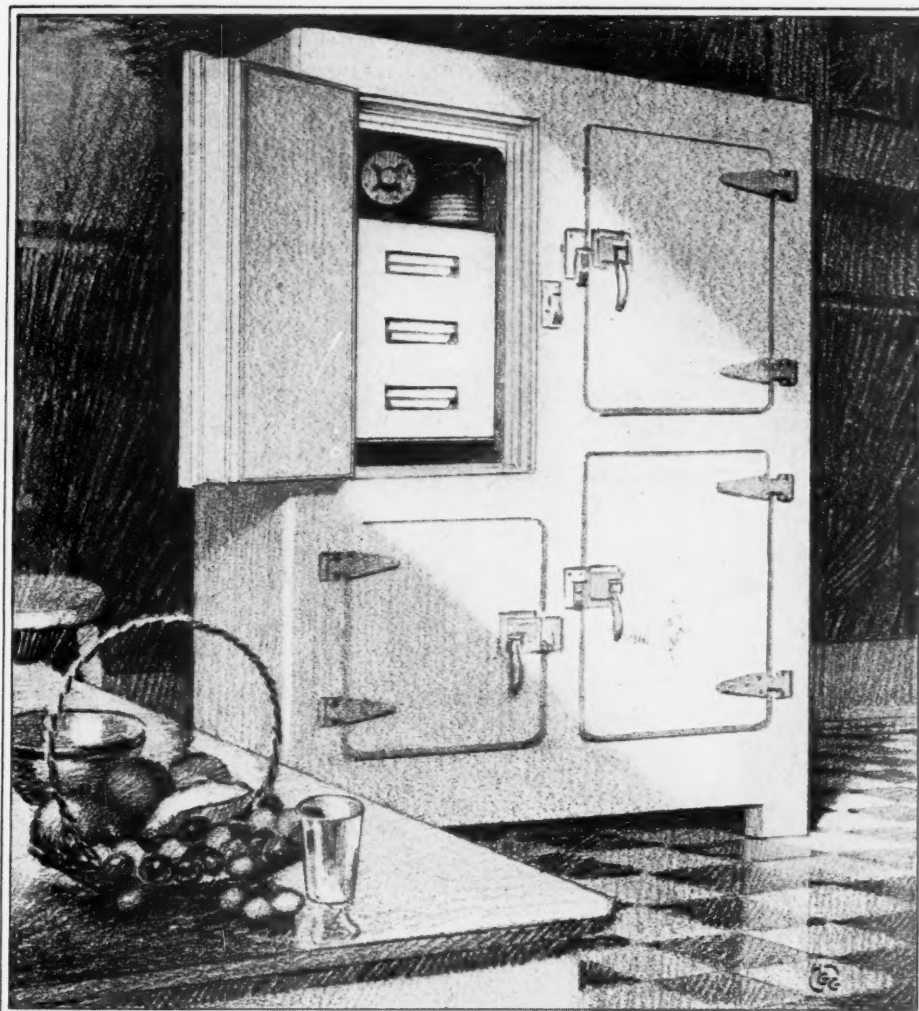
We tried to form a group of interested parties to finance and build an ideal home electric but the majority of those approached were frightened off when it was proposed that they bear their part of the expense. Therefore, as soon as we could afford it we financed the entire proposition ourselves and made the interested parties pay for their advertising in the quality of their



The First Floor Plan of the Hunter Brothers Home Electric Shows a Most Convenient Arrangement of the Rooms as Well as of the Electrical Equipment.



The Second Floor of the Home Electric Has Two Bedrooms, a Bath and Unusually Generous Closet Space.



The One Biggest Feature of electric refrigeration

When you tell a buyer that any appliance will last for years, he naturally asks for proof.

There is only one kind of proof that proves, and Kelvinator *alone* offers that.

Kelvinator points to installations that have been efficiently doing their work for years. These installations are in practically every community and your statements can be verified by the prospect.

Find, if you can, any stronger selling feature than that of Kelvinator's past performance.

KELVINATOR CORPORATION, 2025 WEST FORT STREET, DETROIT, MICHIGAN
Kelvinator of Canada, Ltd., 11 Temperance Street, Toronto

(104)

Kelvinator

The Oldest Domestic Electric Refrigeration

work and in the discounts they gave us on materials. Thus each sub-contractor became a vitally interested part and party to the building of an ideal home and he did his best to make his portion a living advertisement to himself and his manufacturer. The majority of these manufacturers kept an expert salesman in the house during the fortnight of its first formal opening, and much good business was done with the thousands

outer walls of the kitchen and by the special arrangements of the doors around the central heating plant either hot air or cool air can be sent to any section of the house. This was all calculated for us by factory engineers when they were told what we wanted.

The furnace is of the hot air type, controlled with both electric thermostat and clock, the latter opening the drafts in the morning to warm the house while the automatic electric range starts the breakfast, and at the same time opens the electric lock on the chicken house and lets them out to catch the early worms.

The fixtures were made by a well-known chandelier company and were chosen by its own artist especially for this house. All switches and convenience outlets were furnished free of charge by a Norfolk, Va., electric supply firm.

This house is built on a solid wall of masonry with occasional iron air vents and the basement is of the latest waterproofed cement. The sills and all exposed lumber and timbers are of the best heart long leaf pine. Framing, sheathing, etc., are of cheaper material. Between weatherboards and sheathing, as be-

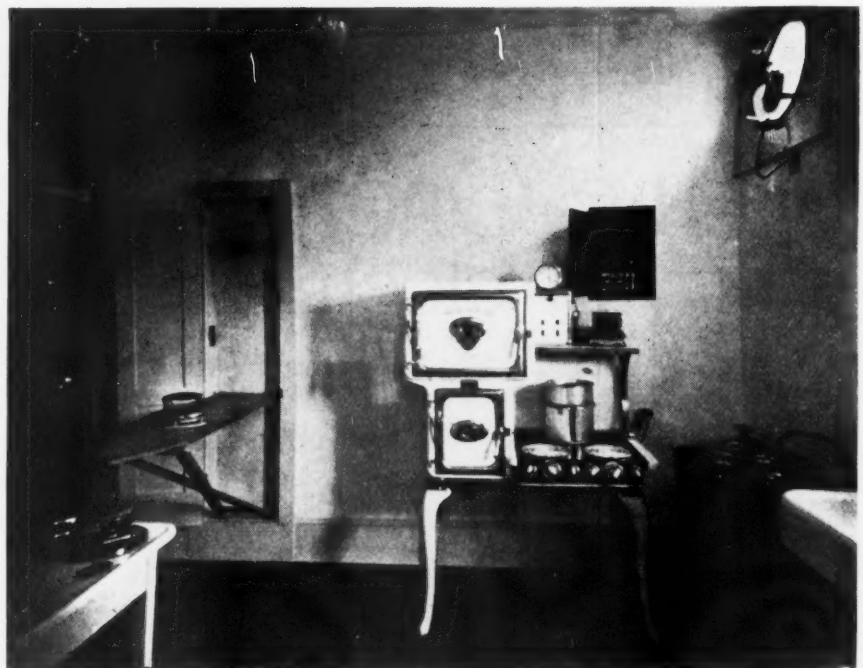


A View of the Attractive Dining Room of the Home Electric Looking Into the Rear Hall and the Breakfast Room.

of people who interestedly studied the building and the ideas the building expressed.

We did not try to stuff this house with electrical equipment, but furnished it with no more than we are actually using in our own home. Of course, however, there are more electrical outlets and convenience outlets in this "Home Electric" than in the house we call home that was built 40 years ago.

Now what has been the result of this house we cannot say except from an electrical point of view. It has been the direct cause of our installing hundreds of convenience outlets and dozens of ventilating fans. These two items seem to have struck the householder right in the public eye. As far as we are able to determine this was the only electrically ventilated house in this section of the country and it is possible, due to the blower fan to raise any window in this "Ideal home" and feel a breeze blowing in one's face. This fan is situated in one of the



The Kitchen of the Home Electric Is Equipped with All the Devices Which Make Housework a Pleasure Instead of a Task. The ventilating fan proved to be one of the most pleasing features to the many persons who visited the home.

tween all double floors, is placed a very heavy grade of builder's felting. This house stood zero weather for two days last January without a pipe freezing and without a spark of fire in the building. The roof is of flexible



The Brick Fireplace, with Its White Enamel Is a Fitting Feature of the Hunter Brothers Electrical Home.

asbestos shingles laid on two-ply roofing. All plaster is of the hard finished cement type and ceilings are on metal lath while ventilators are inserted between ceiling and roof to prevent upstairs from heating in summer. The painting is four coats inside and out. The floors throughout the entire house are hand picked No. One rift North Carolina pine, being laid dark board and light board throughout. They are finished in natural tints by a factory representative. The hardware as chosen for this house by a factory representative and is in keeping with the ideals of the home. The inside finishes are the same in every room, walls flat white, woodwork ivory enamel, doors old dull mahogany. Outside the house the paint is cream with black window trim and screens. All exposed bricks are rough texture and the cement porches are tinted to match the brick work.

The house cost us \$12,500 net. This includes the lot and all electrical equipment aggregating about \$2,000 which is now in the house and on demonstration. The house is planned for convenience, ease and economy of operation and its idea will greatly simplify living conditions. No unnecessary step is wasted in moving from one task to another. The signs left by 300 visitors passing through the home during two hours were completely removed and the place tidied in 26 minutes by the writer. The remark made most often by those visiting the place is "It is the roomiest little house I ever saw."

We have endeavored to teach the public or to impress upon them the idea to build better homes, not bigger homes, and to include the price of equipment into the cost of their home. It is just as necessary to have a suitable electric fixture in a handsome living room as to have the walls of the room itself and a kitchen without a modern electric range is like a shell without an egg.

The house that is not electrical is not modern. With the hundreds of conveniences that electricity performs the Home Builder should be taught to include all of these that he can afford in his house building budget.

Fayetteville's first ideal "Home Electric" was not a pageant in which electrical appliances were paraded to the disparagement of other home essentials. In this house every feature of home building from the lot to the lock on the garage door was held up as an ideal towards which to strive. We doubt if any house of this size and initial cost was ever built that was as heartily and wholesomely boosted, advertised and demonstrated as this little home. The virtues of the doors, the floors, the paint, the plaster, the roof, the hardware, heat and plumbing as well as the workman-like manner and the artistic ability with which these things were gathered together and molded into an ideal servantless house have been sung, printed and pictured until they are facts. In almost every home that has been built since this house was finished can be found the effect of its demonstration and this "Ideal Home Electric" has been a veritable plum pudding for all of those who participated in its building.



The Bungalow

Who put the *low* in bungalow?
Who sank its humble roof?
Who spread it out across the lot,—
In winter cold, in summer hot,—
Against no weather proof?
Whose'er the architectural sin,
He also put the *bungle* in.

JULIA C. WALSH.



Popularity of Cellarless Houses Due to Lower Building Cost

(Continued from page 88.)

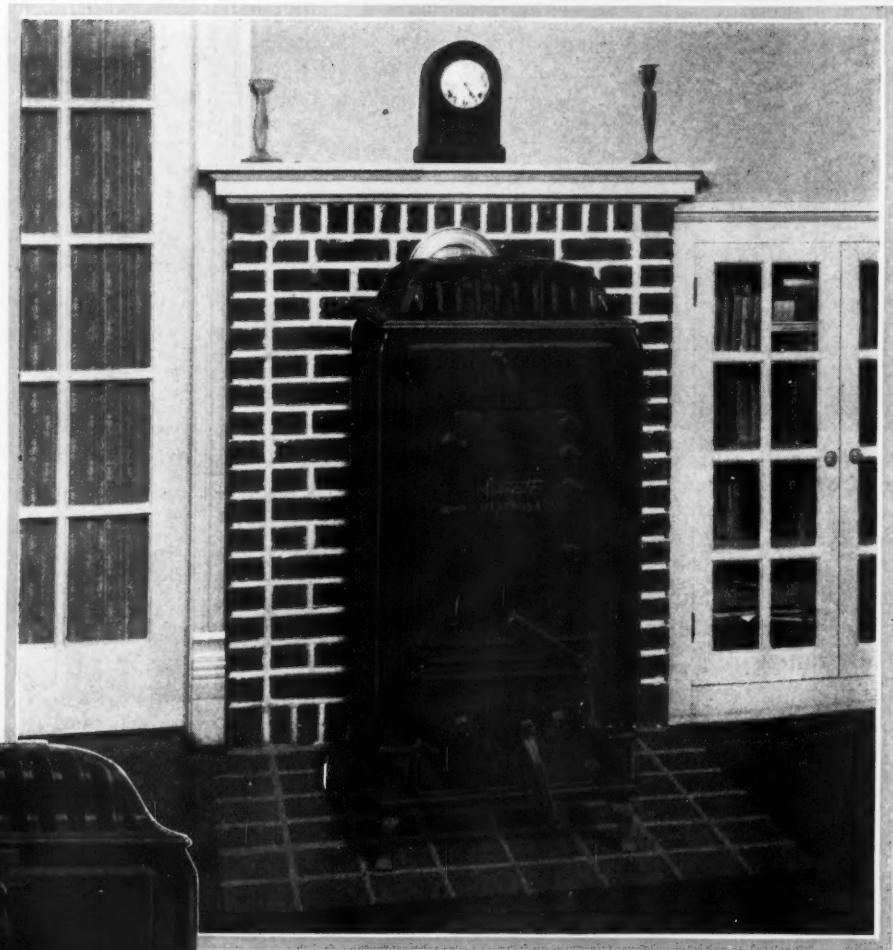
economy of the smaller heating plant as a continuous saving in operation.

The floors of a cellarless house can be made as warm as the house with cellar only in case they are very carefully insulated. The insulation should be placed between the floors. If not of a waterproof type, it would be advisable to do some dampproofing under the floor. Great care should be taken to see that there can be no air leakage through the floors under wind pressure when the foundation piers are not enclosed by a tight wall which extends below grade.

Among the items of saving when the cellar is omitted is not only the extra run of pipes but also the saving in pipe and boiler insulation. Even warm air pipes have to be insulated in a basement.

Builders who want to swell the volume of their sales will recognize the value of the cellarless house idea. Every \$700.00 or \$800.00 saved in construction costs brings in a new class of buyers, especially where modern, comfortable housing is provided, even though not as spacious or luxurious as the more expensive dwelling.

\$1,000



Heatrola as the heating unit for the cellarless house

Here is a heater that requires no basement; a heater beautiful in appearance, economical in fuel consumption, yet so efficient in operation that it easily keeps the whole house warm, upstairs and down. From its location in a ground-floor room, it circulates great volumes of warm, moist air to every corner of the house, keeping distant rooms as comfortable as the room in which Heatrola stands.

Because of its complete adaptability to the cellarless house, Heatrola and the cellarless house idea have become inseparably associated. The Architects' Small House Service Bureau has endorsed the cellarless house plan, leading architects every-

where have approved it, hundreds of small home builders have adopted it, with Heatrola as their heating unit. In many cities, Heatrola-heated cellarless houses have been erected, for the elimination of the basement cuts construction costs 15 per cent, while the Heatrola assures even heat—and the combination of lower price and furnace comfort makes the houses readily salable.

Literature giving complete details on the Heatrola Cellarless House Plan, showing how the Heatrola looks and works in the new home, and the various kinds of Heatrola installations already in use, has been prepared. The coupon will bring it. Mail it today.

Estate

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

in Prizes

...for the Best Ideas for Heatrola-Heated Cellarless Houses

Contest Open to Everyone

Can you design a Heatrola-heated cellarless house? Eighteen prizes, ranging from \$200 to \$25—\$1,000 in prize money—are waiting for the best ideas for such small homes.

The contest is sponsored by The Estate Stove Company, makers of the Heatrola. Plans submitted in the contest must be in the hands of The Estate Stove Company by February 16th, and will be judged on the basis of the ideas contained, and not the skill in draftsmanship displayed.

The competition is divided into two classes:

(1) Nine prizes for the best ideas for one-story cellarless houses, Heatrola-heated, of four or five rooms.

(2) Nine prizes for the best ideas for two-story cellarless houses, Heatrola-heated, of five or six rooms.

The prizes are as follows:

1st prize in each class—\$200

2nd prize in each class—\$100

3rd prize in each class—\$50

Six other prizes in each class of \$25 each.

In case of a tie for any of the prizes offered the full amount of the prize tied for will be awarded each tying contestant.

The judges will be Mr. B. L. Johnson, editor of The American Builder; Frank F. Woolling, realtor and builder, Indianapolis, Ind.; and Fred L. Barry, Heating Engineer, The Estate Stove Company, Hamilton, O.

Standard layout sheets for the convenience of contestants will be provided on request, but it is not necessary to submit plans in any certain form.

Naturally, such a contest brings up questions on which you need full information. The facts given here on cellarless houses and Heatrola furnish you with some data. For complete details on the Heatrola-heated cellarless house, fill in the coupon below and mail it to us at once or write us a postal or letter. Remember—contest closes February 16th—only two months and a half to submit your ideas.



The Cellarless House Idea its origin and growth

The idea of saving money by building small homes without basements is not new. Architects and builders have long agreed that the basement is of little use save as a location for the heating plant; and, since the basement costs more than any other single item in small house construction, they have agreed its expense is out of proportion to its value.

Probably the first man in America to expose the extravagance of basements was Ernest Flagg, famous architect of the Singer Building and many other notable structures. For the past several years he has devoted his time and talent almost exclusively to searching out ways of reducing costs for the small house builder, and one of his first and greatest savings has been the elimination of the cellar.

The chief obstacle to more wide-spread adoption of the cellarless house building plan has been the difficulty of finding an efficient method of heating such houses. The Heatrola, through its ground-floor heating method, has eliminated this difficulty.

Mail this coupon for full information

The Estate Stove Company
Hamilton, Ohio

- ☐ Please send complete information about Heatrola and the Cellarless House Idea.
☐ Please send layout sheets for Cellarless House Contest.

Name _____

Address _____

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THE ESTATE STOVE COMPANY Hamilton, Ohio

Pacific Coast Office and Display Room, 366 Post St. at Powell,
San Francisco, Calif.

Builders since 1845 of the famous Estates. A stove, furnace and range for every requirement—for cooking and heating with coal, wood, gas and electricity.

HEATROLA

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



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Tongued and Grooved Rubber Flooring

ABOUT two years ago a rubber expert in Akron, Ohio, was very much interested in discovering some way of using the immense amount of waste rubber which accumulates in tire plants. After experimenting for more than a year, he finally evolved a tongued and grooved rubber flooring.

This product is a real flooring and not a covering. It is a wire-reinforced board with tongue and groove, and is laid practically in the same way as any other flooring, i.e., where it is laid over a wooden sub-floor it is nailed down, over a concrete floor it is cemented.

The rubber flooring is easy to lay. This in itself is a point in its favor as anyone can lay it, and when laid it stays laid, without that tendency to bulge and shrink.

In addition to staying perfectly flat, it will not crack, curl, stain, sweat, swell, twist or warp, which is due to the strong wire reinforcement. In the school room or hospital it is especially good because of its qualities of noiselessness, restfulness and sanitation. The baseboard or cove which is manufactured along with the flooring fits in close to the wall

and prevents the accumulation of dust and dirt along the sides and ends of the room. Its non-slipping and moisture-proof qualities are a great asset in the bathroom, and the fact that it can be made in almost any color makes it appeal to the lover of beauty and harmony. Its durability, slow-burning and vermin-proof qualities make it an ideal flooring for factory and warehouse. It will stand up under the heaviest and hardest usage. Iron-wheeled trucks will pass over it with but little effort, and practically no wear on the floor. Heavy work tools if dropped will have slight dents, which, owing to the resiliency of the rubber, will pass away after a few days. In this connection, experiments have been made with heavy hammers, and inside of two weeks it was practically impossible to see where the floor had been dented.

The flooring is made in strips 10 feet long, $2\frac{1}{10}$ inches wide, and is tongued and grooved and wire-reinforced. When skillfully laid, the surface is smooth and even, and if waxed will give great satisfaction when used for dancing or recreations of any kind.

For cleaning the floor, ordinary soap and water is used, and if a higher polish is desired it may be rubbed with benzoil or gasoline, followed by a brisk rubbing with a soft dry cloth. Floor wax will give an added lustre the same as it does with hardwood floors.

At the present time the flooring is made in six plain colors, viz.: black, red, gray, green, white and brown, also in a number of mottled combinations using the above plain colors, e.g., mottled red and white.

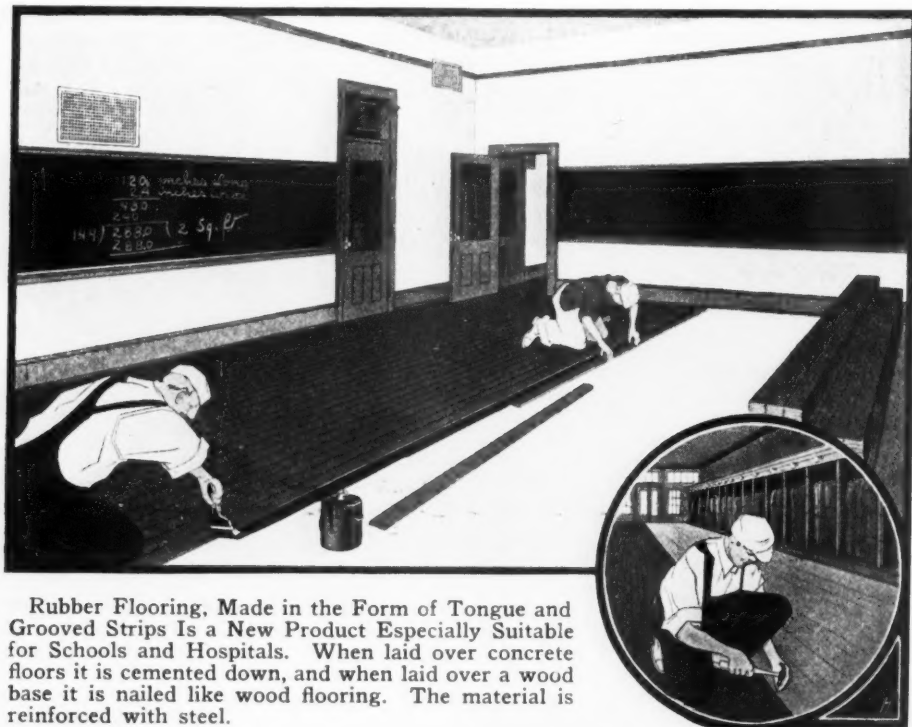


A New Type of Glass

ANEW sort of building and ornamental glass that was discovered by a glass manufacturer through a slight variation in the process for manufacturing polished plate glass is in increasing favor with architects and builders.

Before the new glass was made available through dealers it was tested directly by the main organization of the company which discovered it. Several installations were made in office buildings, stores, public buildings and edifices. As a result the discovery was given so many and unanimous endorsements and praise that the company was convinced they had evolved a product that will take a permanent place in glass history.

The new glass differs from ordinary plate in having a slightly wrinkled, semi-opaque surface. It breaks up and diffuses light rays,



Rubber Flooring, Made in the Form of Tongue and Grooved Strips Is a New Product Especially Suitable for Schools and Hospitals. When laid over concrete floors it is cemented down, and when laid over a wood base it is nailed like wood flooring. The material is reinforced with steel.



Better Heating for the Home Without a Basement

Homes without basements are no longer impossible to properly heat. You can now safely guarantee adequate heat—in such a small home—if you use the Sunbeam Cabinet Heater.

This modern heating plant has all the advantages of the famous Sunbeam Warm-Air Heating system on a smaller scale. It circulates heat, *evenly*, into every part of every room. It leaves no cold corners or drafty hall-ways but keeps the *whole* house comfortably heated and healthfully ventilated in any weather.

The Sunbeam Cabinet Heater is small and compact, and is so attractively finished in olive green or black that it adds to the appearance of any room. It has an extra-large fire pot and combustion dome, and is scientifically designed to utilize every heat unit produced by the fuel. The result is more heat than could be produced by two or three stoves and yet with a one-third saving in fuel.

The tremendous saving in first cost and fuel cost make the Sunbeam Cabinet Heater the ideal heating plant for the five to seven room home. We will be glad to send you the name of a near-by dealer who can show this heater to you and quote prices.



THE FOX FURNACE COMPANY, ELYRIA, OHIO

Largest Makers of Heating Equipment

Boston Atlanta Cleveland Chicago Denver San Francisco

SUNBEAM

CABINET HEATER

TRADE MARK

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

spreading illumination even more than polished plate. Its chief use is in office partitions and doors, and in opaque but translucent screens. In decorations it has turned a new leaf in the book of glass possibilities. Designs can be etched, mitred or sand-blasted on it with excellent effect, the natural appearance of the glass affording the finest of backgrounds.

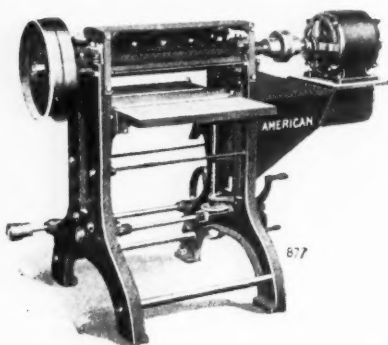
A peculiar property is that while the glass obscures the view of anything or anyone three or four feet away, as seen through an office door, when it is placed directly against an object, as against a framed painting, or objects on a desk-top, it is perfectly transparent.



A Handy Small Planer

OFTEN a machine for planing or surfacing boards would be a convenient and cost saving part of the equipment of a contractor, and even more often is the opportunity offered about a lumber yard for making use of such a machine so that the lumber on hand may be made to fit requirements and show a profit.

The size of the usual planer has been one reason why more of these machines were not in use. Now this obstacle is overcome in the machine illustrated here.



This Machine for Surfacing Boards Would Form a Valued Part of the Contractor's or Lumber Dealer's Equipment.

This planer is designed to meet the needs of those requiring a light but strong and durable single surfacer for general work at a low price. It is built throughout of the best grade of iron and steel. It is simple, compact and has a large capacity in proportion to its size. It works either hard or soft wood equally well and is adapted particularly for planing short stock.

The cutter head is made of high grade steel and is accurately milled and balanced, with lips projecting under the cutting edge of the knife to insure smooth work. The position of the cutter is not changed when adjusting for different thicknesses of lumber and the driving mechanism is not affected by such a change. All adjustments are made quickly and easily without loosening any bolts or screws.

It has two steel feed rolls, one in front and one behind the cutter. The front roll is fluted to insure a strong, positive feed. The bed is very stiff, with heavy ribs underneath and is accurately planed and has two steel idle rolls. The rear section is adjustable.



Quicker and Cheaper Drilling

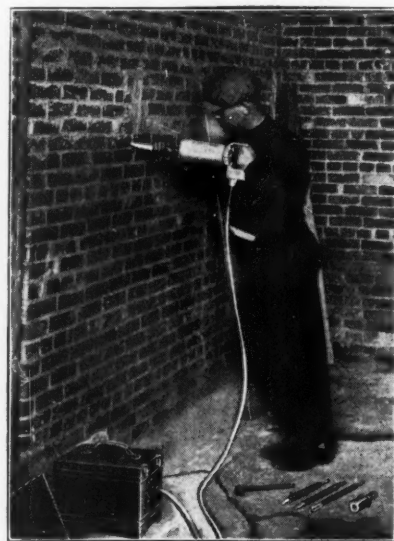
EVERY contractor who has erected buildings of the larger sort has known the irritation and mounting costs which come when an entire force of skilled mechanics must be held idle while a force laboriously and by hand drill holes in masonry for the erection of partitions, anchoring machinery, erecting fire escapes or any one of the numerous similar jobs.

To take care of such work with a fraction of the work and cost of the hand method, an electric hammer or drill is now available. This is strictly a one-man drill and it is notable for its simplicity. It can be attached to the ordinary alternating electric lighting circuit and an attachment is provided to make it available for use on direct current circuits. The entire outfit may be carried by one man in two compact cases.

The tool is constructed without motors, crankshafts, eccentrics or other intricate mechanisms to get out of order and the only moving part is the piston. It has drilled as fast as two to three inches a minute in concrete.

It is adaptable to a number of uses in drilling and chipping and a number of suitable devices for the different sorts of work are obtainable.

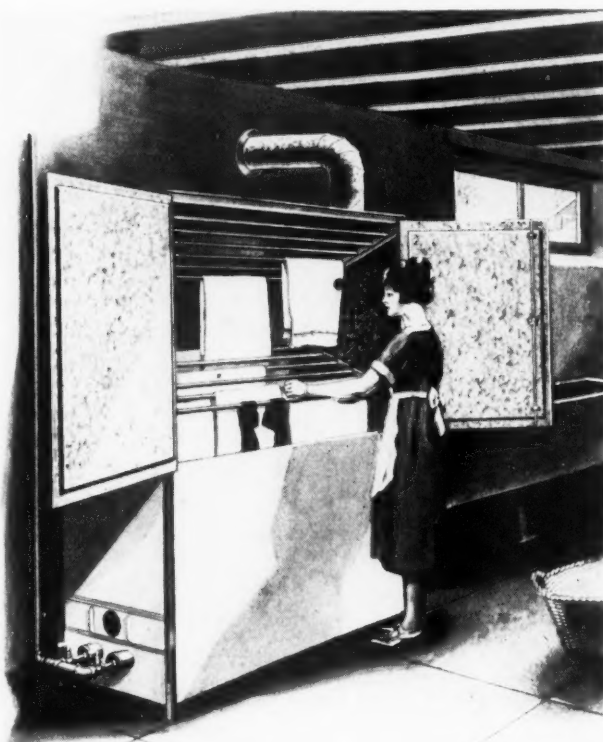
The device is made in three types, the first weighing nine pounds, with a drilling capacity of $\frac{1}{2}$ inch; the second, weighing 17 pounds, with a drilling capacity of 1 inch, and the third, weighing 26 pounds and drilling holes up to $1\frac{1}{2}$ inches.



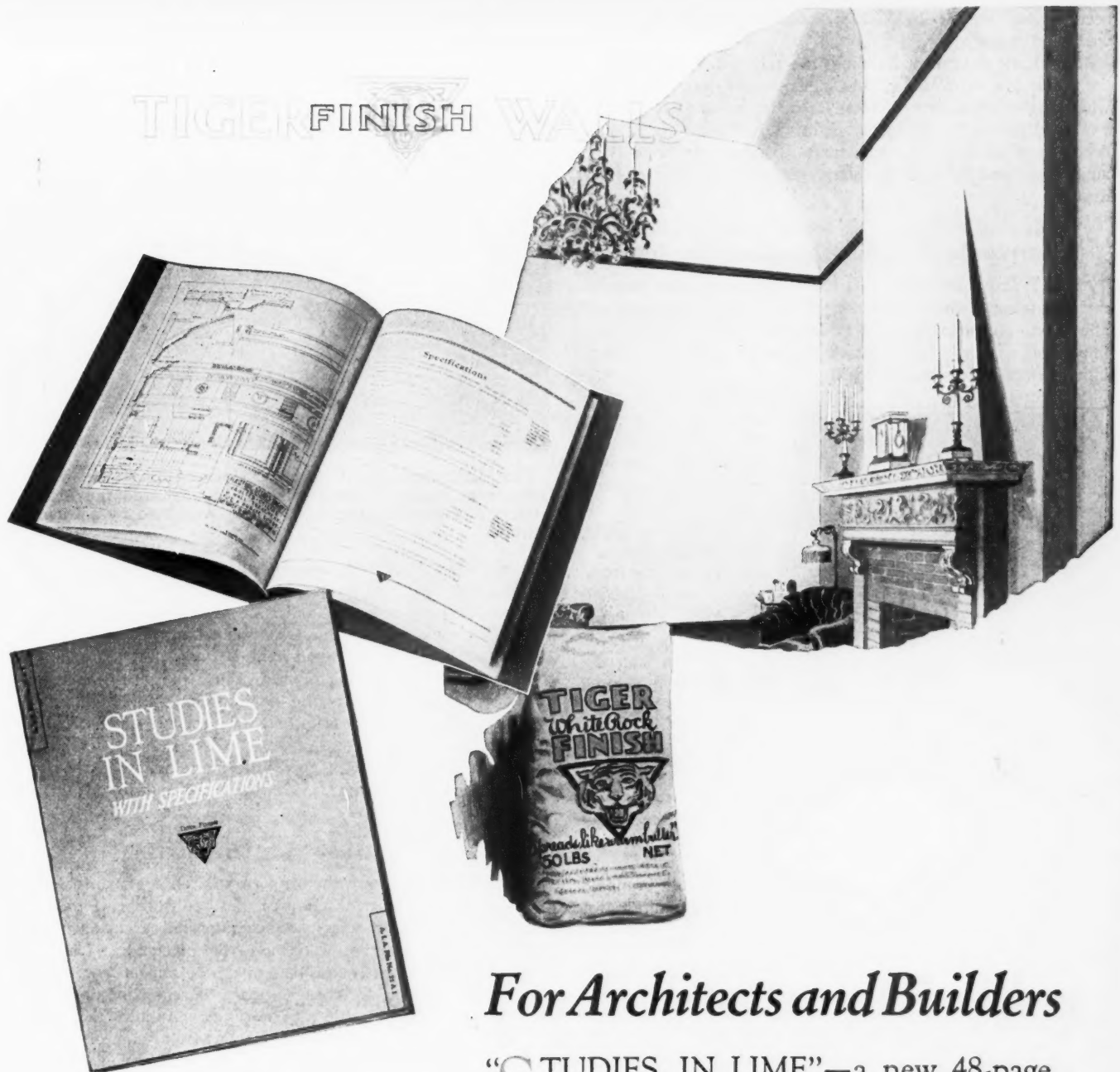
Blows Delivered with Lightning Like Rapidity Make This Electric Drill Many Times More Effective and Rapid than Hand Drilling.

Dryer Which Keeps Clothes White

THIS well designed clothes dryer, heated by gas burner, gives the warm air a complete circulation through the dryer. The products of combustion pass directly out through chimney flue without coming in contact with the clothes and, therefore, cannot yellow them. The clothes are ready for ironing in less time than it takes a washing machine to wash the next load. This is a great convenience for homes and saves the housewife or laundress from the exposure con-



A Clothes Dryer, Operated by Gas Makes the Hanging of Clothing Outdoors to Dry Unnecessary. Beside the convenience to the housewife, this device saves the clothes from the wear and tear of the winds.



For Architects and Builders

"STUDIES IN LIME"—a new 48-page book recently issued for architects and builders.

It contains several pages of architectural details, such as cornices and geometrical ceilings, drawn to one-half scale; also photographs illustrating many interesting examples of the adaptability of lime plaster to various types of work, together with complete specifications covering the use of TIGER FINISH for interior plaster, in exterior stucco, portland cement mortars and concrete.

If you are a builder interested in high grade plaster work and in keeping down costs through the use of lime that really "Spreads like warm butter," "Studies in Lime" should be of real value to you. We cannot agree to fill all requests for this treatise as the edition is necessarily limited but we shall be glad to handle requests in the order received.

The Kelley Island Lime & Transport Co.
World's Largest Producer of Lime
Leader-News Building
CLEVELAND

nected with line drying and protects the clothes from the wear and whip of the wind.

Many large apartment buildings are now being equipped by the builders with clothes dryers and other modern equipment, which makes them rent and sell to better advantage.

This dryer is 74 inches in height, 5 feet wide and 2 feet deep. It is made of heavy galvanized sheets, reinforced with angle iron and burners can be regulated for fast or slow drying.



Convenient Tool Branding Device

EVERY large contractor has had the experience of missing a number of tools from the job when the implements are allowed to go unmarked, and on large operations, it is almost impossible to keep track of each tool and trace the responsibility to any individual.



A Convenient Means of Marking Equipment Is Provided by a Self Heating Branding Tool.

It is usually conceded that the most effective way to cut down such losses is to mark the tools and equipment with the initials or name of the firm plainly and in a manner that the mark cannot be eradicated readily. And the method most in favor has been burning the firm brand in with a hot iron.

The chief drawback to this plan in the past has been that it required a special means of heating the branding iron, a forge or a similar device, and that since branding tools was quite a job

it was likely to be neglected unless a large number of tools were to be marked.

There is now available to contractors and lumber dealers a branding device which is self contained and is heated by a blow torch which can be raised to the right heat for branding in from five to seven minutes, and will maintain that heat indefinitely. Any combination of letters may be used or special designs may be made to use in branding utensils.

In addition to its uses as a branding tool, the device with a change of fitments may be used as a soldering iron or as a blow torch. It is made in a number of sizes.



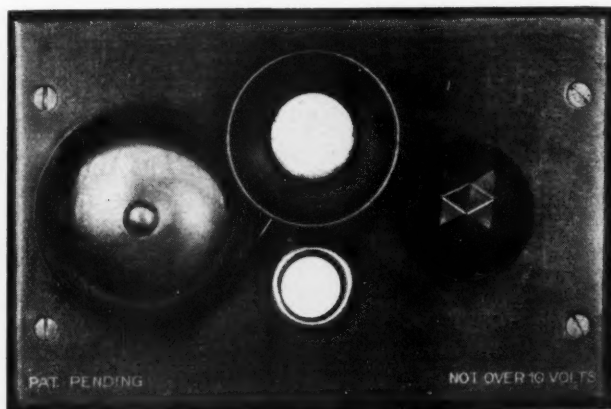
Apartment House Convenience

THOSE builders who have had experience in erecting apartments know that it is the manner in which the building is finished and the conveniences furnished which attracts the tenants wanted by the owner, whether he wishes to retain the property himself or to sell it.

An electrical device has been in use for some time for opening the front door of an apartment building from individual apartments located at some distance from the door and possibly some floors above the entrance. This is a great convenience and saves the housewife many steps and the climbing of many stairs. The usual proceeding is for the caller to ring the bell of the apartment to which he wishes entrance. The persons in the apartment usually find out through the speaking tube, which is part of the equipment, who the caller is, and he is admitted by pressing a button in the apartment which opens the latch on the door below as long as the button is pressed.

The flaw in this proceeding is that it is almost impossible to tell when the visitor has entered and when it is safe to release the pushbutton so that the door is locked again.

A new device eliminates this criticism. On the same panel



The Indicator Panel Shown Here Allows the Flat Dweller to Know When a Visitor Has Entered the Main Doorway of the Building After Being Admitted by a Push-button.

with the bell, the speaking tube and the pushbutton is mounted a small red light. When the visitor opens the door below to enter, the lamp is lighted and it is safe to release the pushbutton, knowing that the guest has gained entrance.

The installation in the apartment is on a neat plate illustrated here, and the wiring is incidental to the task of putting in the system which lacks the signal light. This light may be operated from dry batteries or with a reducer on an electric light circuit.

It may be installed with very little more cost than that of the usual equipment and is a feature which will delight a housewife.



A Flexible Weatherstrip

A NEW patented weatherstrip is now on the market and has several superior features that are causing it to win the approval of carpenters, contractors and architects and home owners wherever used. One of the outstanding features of this strip is that it is flexible and can be put on new buildings without waiting for them to settle. Even if the doors or windows do warp or settle, this novel strip follows the wavy surfaces assuring a weathertight contact at all times.

The strip is made of a cotton packing insulation covered with a special rubberized fabric that also provides a substantial four-ply tacking lap. It is very easily installed by simply tacking on and turning the corners, is moth and vermin proof and comes in one continuous length of whatever footage is desired. It cannot rust and is non-conductive of heat or cold as it contains no metal.



This Extremely Flexible Weatherstripping Is Easily Applied and Will Adjust Itself to All Settling of Buildings.

There is an excellent market for this strip as the owners of buildings under construction as well as buildings already built are prospects.



Protection Against Moths

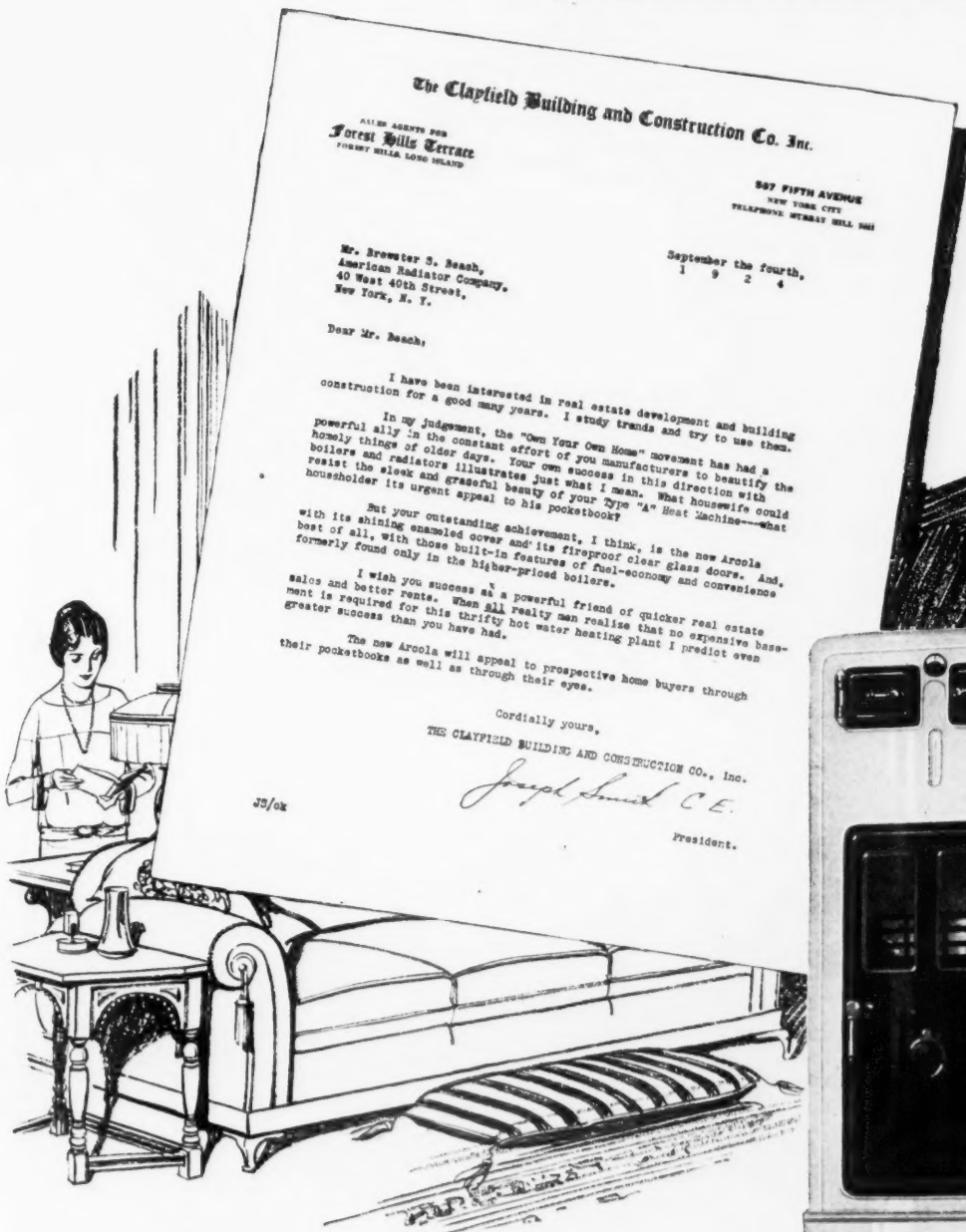
TWO MILLION DOLLARS is given as the amount of the toll taken by moths in one year, and where is the household that has not been taxed with its share of the huge meal ticket? As a welcome relief to the prospective house builder

"But your outstanding achievement is
the new ARCOLA"

—it will appeal to prospective home buyers through
their pocketbooks as well as through their eyes."

THE CLAYFIELD BUILDING AND CONSTRUCTION CO., INC.

Joseph Smith C.E.
PRESIDENT



EVERY REALTOR
should read this letter from the developers of Forest Hills, the famous Long Island suburb.



The new ARCOLA Radiator Heating Outfit
Reg. U. S. Pat. Off.

AMERICAN RADIATOR COMPANY

IDEAL Boilers and AMERICAN Radiators for every heating need

Dept. T-296, 1803 Elmwood Avenue, Buffalo, N.Y.

Sales Offices in all principal cities

and the present home owner comes the news of a recently perfected air-tight clothes vault that may promote thrift and also serve as a luxurious convenience. The vault is for daily use as well as storage.

The entire exterior of the vault is steel clad. The metal face is continuous around the corners, a feature which has been patented. The door is said to be stiff as a boiler plate and consequently permanently flat. This door is rimmed with an asbestos filled gasket and has a powerful clamp which seizes the door at three points when it is closed, thus assuring an air-tight closure.

It is estimated that it would take a sneakthief an hour to force the lock on the door of the vault, which is not the way in which such thieves like to work. Likewise, while the vault is not absolutely fireproof, it is fire resistant, and will resist a living flame for one-half hour or longer before the contents of the vault would be scorched.

It will be noted from the photograph of the vault that it is



Protection Against Moths Is Assured by This Fire Resistant Vault Which Can Be Either Built in a Home or Placed in an Existing Closet. The fumigation method uses a formula approved by the government.

equipped with a pull-out rod on which the clothing is suspended on hangers. This feature adds both to the capacity and convenience of the closet.

Though the ordinary clothes closet will accommodate this cabinet, it will save plastering and trouble if the installation can be made when the home is built.

It is positively a death chamber to all moths. Fumigation is accomplished by a government approved over night method and need not take place more often than once in four months to protect furs and fabrics from the ravages of moths. The fumigation method makes use of a formula which, while it is destructive to moths and their larvae, is not harmful to persons. There is no unpleasant after odor. Finest fabrics are not injured and spread of contagion is said to be eliminated because the proper disinfectants are 100 per cent efficient

when used in this tightly closed cabinet. The cabinet is tight enough to protect all the contents against dust, soot and coal gas, making the materials last longer and reducing cleaning bills.

The vault makes a special appeal to owners and managers of apartment houses, cleaning establishments, hospitals and other institutions, as well as to the home owner.—L. E. RAVENSCROFT.



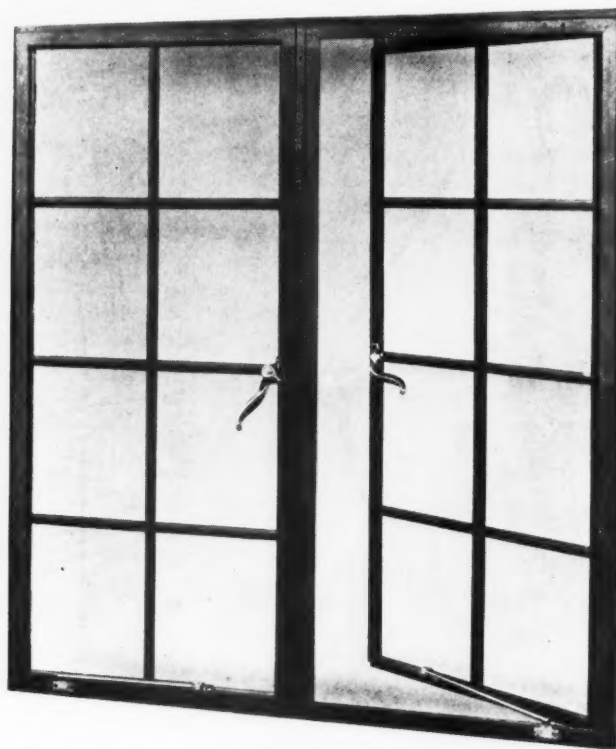
Improved Copper Steel Casements

IN announcing new improvements in copper steel casements the manufacturers of these casements state that these are now made in three standard units and can be combined to fill any opening, large or small. By reversing the casement, opening from either right or left hand may be secured.

In the latest copper steel casements, the method for attaching the friction stay at both top and bottom is provided in the process of manufacture. The handle is attached directly to dead center, making it possible for the casements to be reversed.

The cam handle is manufactured in a new scroll design, being beautiful and in keeping with the grace of the casement window. The handle is made of malleable iron for standard usage, but solid bronze can be had at a slight additional expense. The brass strike plate, which prevents the handle from rubbing the paint off the frame in opening and closing the window, is arranged to allow the right or left cam handle to engage.

A time tested friction stay has been preserved. This friction stay acts on the principle of a door check and holds the ventilator in any desired position. By turning the barrel of the stay, the plunger is clamped tight.

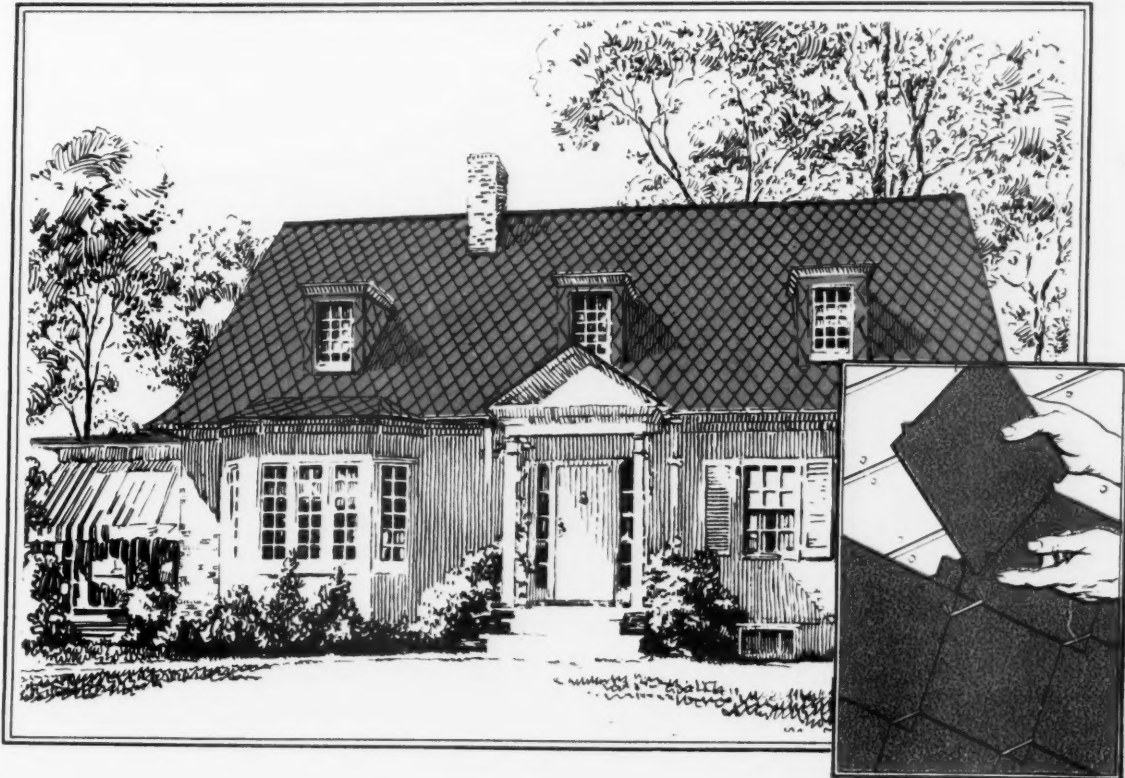


Copper Steel Casement Windows Are Attractive and Have Many Advantages. The cam handles shown are attached at dead center, making it possible for the casements to be reversed. A friction stay is used to hold the window in any position.

Besides the standard hinge, these casements can be furnished with the extended, or the so-called cleaning hinge, for special conditions where the glass cannot be easily washed from the interior.

LOK-TOP ASPHALT SHINGLES

(Patented)



Locked tight to the roof

Even the severest weather can't penetrate a roof of Lok-Top Asphalt Shingles. Each shingle is held fast to the roof by a special patented Lok. Thus locked down on all four corners, these improved shingles give you the utmost weather protection simply and economically.

The artistic pattern of Lok-Tops and their rich colors of green, red or blue-black slate give an unusually handsome roof. And the guaranteed quality of their inner materials makes this beauty permanent.

Lok-Top Asphalt Shingles can be easily applied over old wooden shingles as well as on a new roof. And they are *approved by the Underwriters' Laboratories as fire-resistant.*

Ask your nearest dealer or jobber about Lok-Top Asphalt Shingles. If they cannot supply you, write us direct.

The **RICHARDSON COMPANY**
Lockland (Cincinnati) Ohio

Chicago New York City (1008 Fisk Bldg.) New Orleans
Atlanta Dallas

RICHARDSON ROOFING

© 1924, The Richardson Company

Clip and mail this coupon

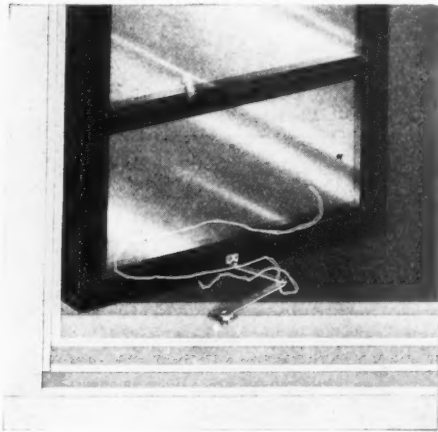
The Richardson Co.
Dept. 35-L, Lockland, Ohio
Gentlemen: Please send me complete information
on Lok-Top Asphalt Shingles.

Name

Address

Regulated Casement Windows

CASEMENT windows are becoming more popular each day. Some device must be used to hold the casement, transom or pivoted window in position so that they will not slam or rattle. The use of the casement check will prevent the sash from rattling or slamming with the wind and allow regular ventilation.



A Casement Check Which Can Be Used on in or Out Swinging Casements Is Adjusted to Various Sizes of Sash by Turning a Screw.

It can be used on head or sill of casement, as it requires but 1 3/4 inches space. In using this type of hardware, you do not have to have a special constructed stool or frame. It is designed so that it can be used on any standard constructed window.

It can be adjusted to suit the various sizes of sash by simply turning the screw in the pivot plate to secure the necessary friction to hold the sash in position. No parts have to be removed to adjust. Friction is created by copper and steel discs, which will function regardless of wear. It is permanent.

The casement check is not only economical in price, but also in application.



An Economical Saw

CONVENIENCE and economy are two of the most sought features in power saws which often are used both on the job and in the shop. It is especially handy to have apparatus of this sort which can be transferred from the shop to the job readily and which will utilize the most convenient source of power, the ordinary electric light socket.

These two features are among the good qualities of the saw illustrated here. The saw takes only a space 7 by 14 inches on the bench and the table which can be tilted 25 degrees, is 13 by 22 1/2 inches.

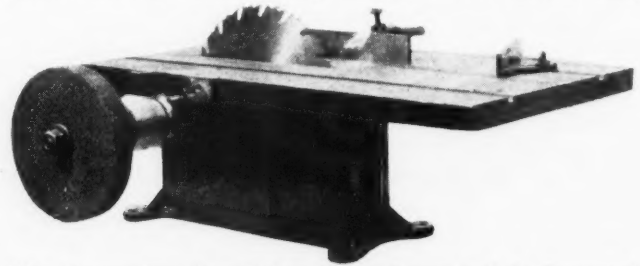
The machine takes saws from six to ten inches and will rip or cross cut material up to 3 1/2 inches thick. In addition to this it will take dado plates up to 2 inches wide. The end of the spindle is bored to take a drill chuck, or it can be used for an emery wheel or sander. The entire weight of the saw is fifty pounds.

The saw is made of high grade iron and steel, with all of the parts machined accurately. The spindle is supported by two ground and hardened ball bearings.

The saw is made of high grade iron and steel, with all of the parts machined

accurately. The spindle is supported by two ground and hardened ball bearings.

For the ordinary run of work with the 7-inch saw which is furnished regularly with the machine, a one-quarter horse-power motor is considered large enough, but for heavier work,



This Convenient Saw Takes Little Room and Is Operated from a Light Socket.

where a 9- or 10-inch saw is used, the manufacturer recommends that a one-half horse-power motor be used. Either of these motors can be furnished by the maker of the saw.

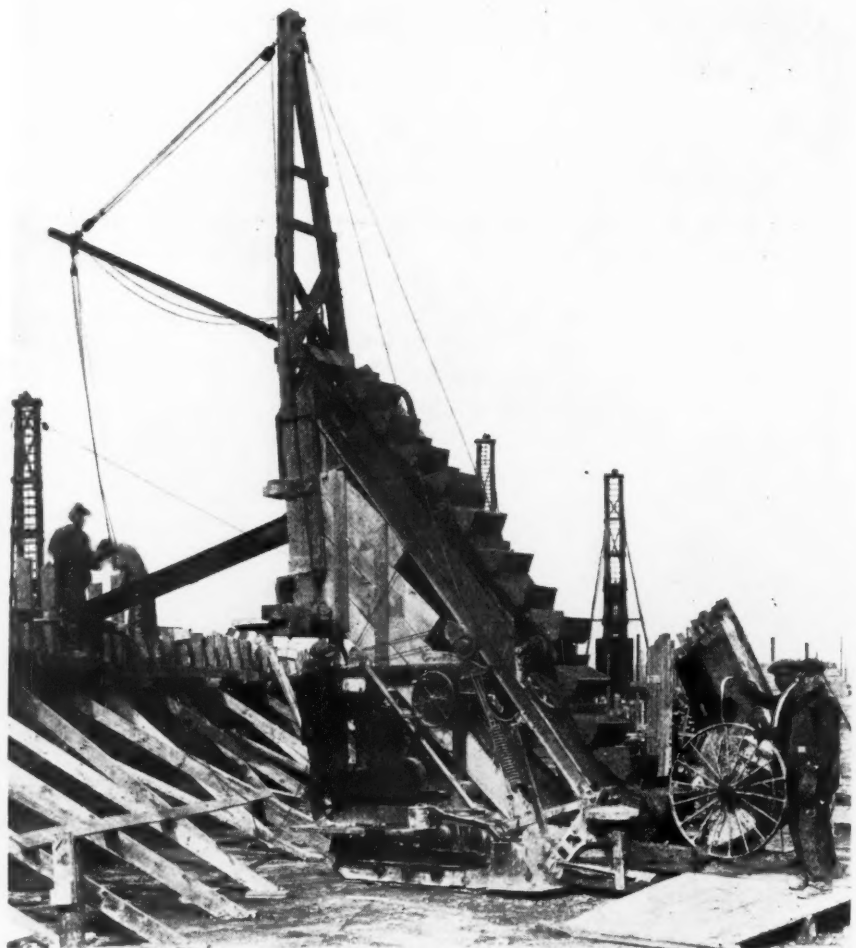
The exceptionally low first cost of the rig is a feature which will appeal to many builders.



Loader Replaces Tower

THE Empire Engineering Company, in building the foundation for the Baltimore and Ohio Railroad pier in Baltimore, made an unusual use of a self-feeding bucket loader to take the place of the tower usually utilized in this work.

A crane, mounted on a barge, fed sand and gravel to the mixer, which discharged into barrows which were wheeled to the hopper at the foot of the bucket elevator on the self-feeding loader, which then poured the concrete into the forms.



Using a Self Feeding Loader Instead of a Tower for Pouring Concrete.

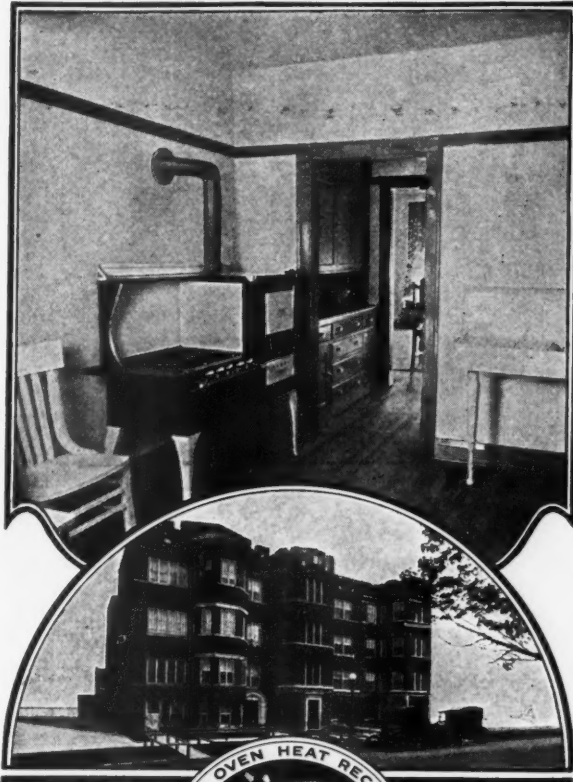
To the Men Who Plan and Build Apartment Buildings:

Do you know that a gas range equipped with the Lorain Oven Heat Regulator represents the highest achievement yet reached in the development of an appliance for the perfect cooking of foods?

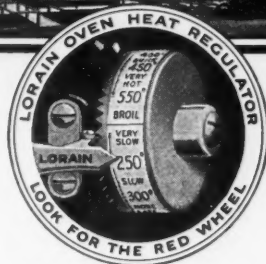
Do you know that any kitchen today that has a gas range *without* a Lorain Self-Regulating Oven cannot be said to have the *most modern* cookery equipment?

Do you know that in thousands upon thousands of homes and apartments, and in hundreds of churches, hospitals, fraternal organization structures and other types of high-grade buildings, gas ranges equipped with Lorain are regarded as *ideal cookery appliances*?

Today, American housewives in general look upon a Lorain-equipped Stove as a real home necessity because it produces ideal results in Cookery by the modern Time and Temperature Method. The housewives that use this wonderful Lorain Self-Regulating Oven never experience an "unlucky"



Apartment buildings at 6737-41-43 Paxton Avenue, Chicago. S. M. Seaton and Wm. H. Lautz, Architects, Chicago. Kitchens equipped with Clark Jewel Gas Ranges with Lorain Oven Heat Regulators.



One easy turn of the Lorain Red Wheel gives you a choice of 44 measured and controlled oven heats for any kind of oven cooking or baking.



Representative kitchen of these apartments, showing type of Clark Jewel Gas Range with Lorain Oven Heat Regulator. This particular kitchen is located at 6741 Paxton Avenue; Wm. H. Lautz, Architect.

baking-day, for everything cooked or baked in the oven turns out *uniformly perfect, every time.*

They know that Lorain makes it possible to cook a Whole Meal in the oven *at one time* without any attention on their part—in fact, *they can be miles away while the meal is cooking*, and return hours later to find it deliciously done and ready to be placed on the table.

They also know that Lorain enables them to do their Canning in the oven, better, quicker and easier than by any other process.

Lorain-equipped Gas Ranges are used in over 1100 leading schools and universities for teaching the Science of Cookery. They are used in the research and experimental kitchens of dozens of manufacturers of nationally-known food products.

Catalogs and data of special interest to architects gladly sent upon request. For specific information see 19th Edition Sweet's Architectural Catalog.

These famous gas stoves are equipped with the Lorain Oven Heat Regulator: Reliable, Clark Jewel, Dangler, Direct Action, New Process and Quick Meal.

AMERICAN STOVE COMPANY, 233 Chouteau Avenue, St. Louis, Mo.

Largest Makers of Gas Ranges in the World

LORAIN OVEN HEAT REGULATOR

MOTOR TRUCKS and TRAILERS



Truck Brakes Demand Attention

Special Care Is Required for Contractors' and Building Material Dealers' Equipment, Which Is Subjected to Unusually Severe Use

CONTRACTORS have a habit of abusing the brakes on a motor truck. This is due to driving conditions not usually found in other lines of business which use trucks. In backing up to a certain unloading point or in descending steep excavation grades it is often necessary to jam on the brakes suddenly. The tendency to overload trucks is also responsible for much trouble with brakes among contractors.

The brakes must hold, both the service brakes and the emergency brakes, if only for the sake of safety. The following seven points, regarding brakes and their care, deserve special attention.

One. Brakes should be tested each day. Before going half a block from the garage make a service test by throwing out the clutch and applying the brakes. If possible, select a dry spot for making this service test. Under no circumstances should the car be taken farther if the brakes are not operating properly. Drive back to the garage and see that the faults are corrected before driving out again.

Two. Always be sure that the proper type of brake lining is used. There are many types of brake lining on the market. Do not use linings that are too soft or too thick; such linings easily become matted and necessitate almost constant adjustment. Good linings are woven with plenty of asbestos; some also have fine copper wire woven in. Only an experienced mechanic should install brake linings. He should be sure the lining is properly stretched to avoid wrinkling. The rivets should be properly countersunk; otherwise the metal of the rivets will score the brake drum

and the brakes may not hold properly.

Three. Once in two months remove the rear wheels and wash the brake lining in kerosene. This removes all oil and grease which, if present, take the "bite" out of the brakes. Never oil brake lining. Brakes squeal when they are glazed or when improperly adjusted. Squealing can often be stopped by removing wheels and roughening the brake lining with a file. If the brake lining is worn down to the rivets sink the rivets still farther or have the brakes relined.

Four. Keep the brakes in good operating condition. Wipe off and oil the brake mechanism every 500 miles, or at least once a month. Make a regular systematic brake inspection a habit. The loss of a cotter pin might lead to a serious accident. When a lock washer is removed, don't put it back; use a new one.

Five. All drivers should keep the brakes adjusted properly. Brakes should not drag; if they do they will heat up and be worn down unnecessarily. Brakes



This Method of Handling Lumber Deliveries with Trailers and a Fast, Short-Coupled Truck for Hauling Them Has Been Found Very Satisfactory by a Chicago Lumber Dealer.



Lower Upkeep

GMC Trucks need no nursing along to keep them going at top efficiency. They cost no more than other trucks when you buy them, cost less to operate.

One reason is the overstrength materials that go into GMC parts. Something less sturdy and less expensive might never cause trouble, but GMC design takes no chances. The wear that causes repair bills must be checkmated.

Wear is reduced to the absolute minimum in the GMC engine by full pressure lubrication to all bearing surfaces.

And GMC design not only reduces operating costs by avoiding wear, it reduces these costs still further by providing for quick, easy replacement of worn parts when wear eventually occurs, say in ten years from now. Even cylinder walls may be replaced with new in a few hours.

Put GMCs on the job to take care of your profits as well as your hauling. The GMC catalog will give you a better idea of GMC's low upkeep costs. Ask for it.

GENERAL MOTORS TRUCK COMPANY
Division of General Motors Corporation
PONTIAC, MICHIGAN

General Motors Trucks



CLIP AND MAIL

GENERAL MOTORS TRUCK CO.,
Dept. 9, Pontiac, Mich.

Send me the GMC Catalog.

Name

Business

Address

should not be too loose; loose brakes do not act quickly enough. Different adjustments are made for different types of brakes.

Six. After the brakes are adjusted so they are neither too tight nor too loose, they should be tested every 1,000 miles, or at least once a month, to make sure that the braking power is equally divided between the two rear wheels. Many cars skid, not only because of slippery streets, but also because of unequal division of braking power. Jack up rear wheels and apply brake far enough so that it is just possible to turn one wheel by hand. Adjust brake on other wheel so the same amount of energy is required to turn that wheel by hand.

Seven. In ordinary driving, do not use the brakes oftener than necessary; regulate the speed of the car as much as possible by use of the throttle. If the car is equipped with a foot throttle use it in preference to the hand throttle. This leaves the hand freer to operate the gears and the steering wheel. In making an emergency stop, leave the clutch engaged, apply the footbrake, and pull the hand brake, but do not "lock the wheels." Keep the wheels rolling; otherwise there is danger that the car might slide or skid.

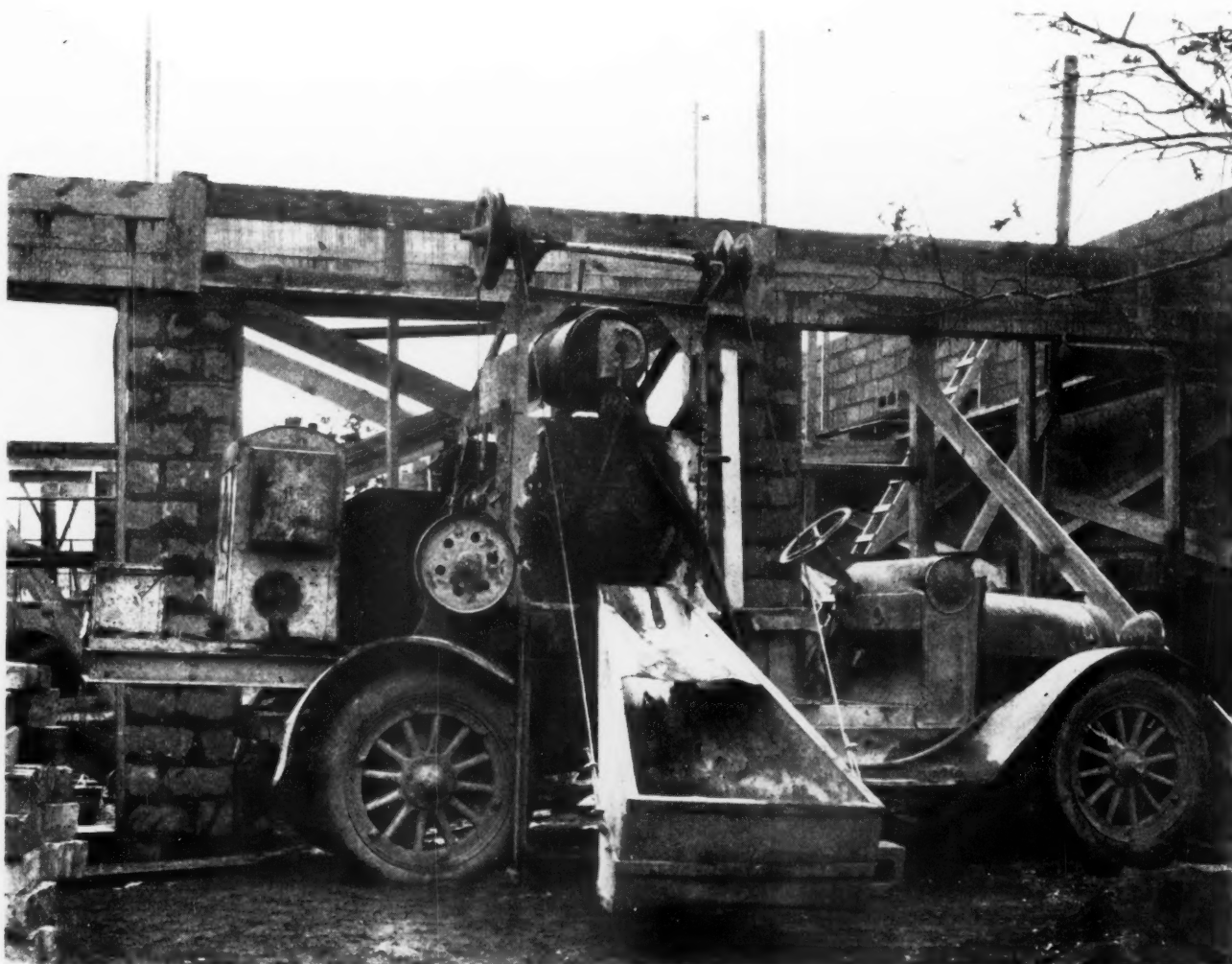
Finding the Trouble

A LOOSE flywheel will produce a very heavy knock at low engine speeds and appear regularly. The knock will change its nature entirely when the engine is speeded up, and the vibration of the shaft will produce a dull chattering knock. It is located by disengaging the clutch and rocking the flywheel back and forth. The trouble is caused by improper fitting, loose bolts, broken bolts or bad keys.

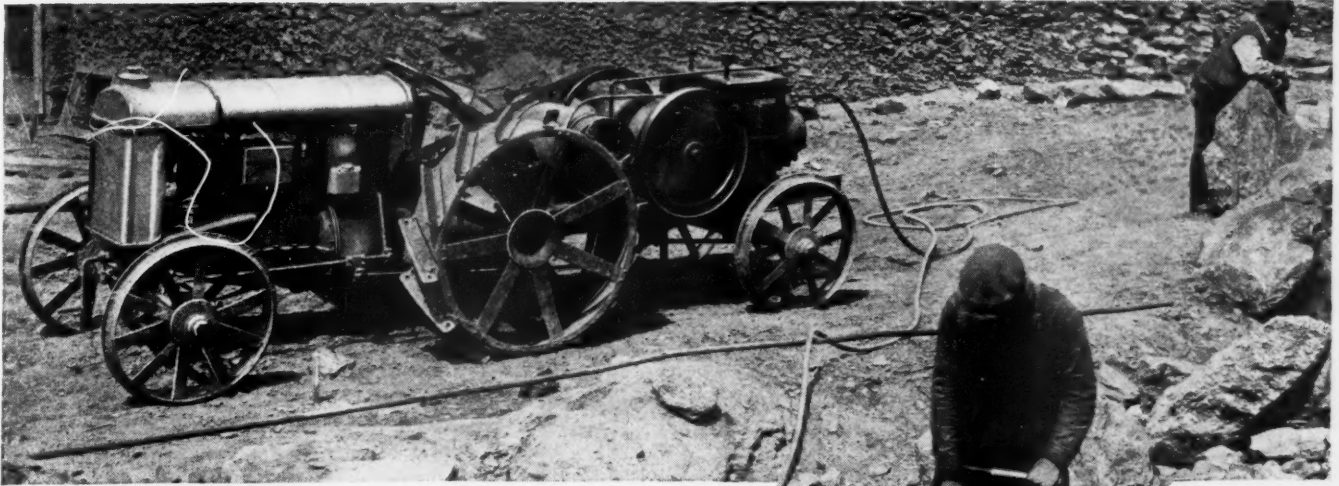
A loose piston gives a very short knock similar to valve slap, the clearness of it varying with the size of the cylinder and metal used in the piston. It can be located very easily by the use of the "listening apparatus" held against the cylinder wall. It is caused by a large bore, small piston or eccentric member.

Loose valve tappets will produce a brisk tap or knock very often encountered and difficult to remedy on a high-speed engine. This trouble is caused by an excessive clearance, bent or sticking valve stems, flat and out-of-round rollers, bent valve spring or a seat that is not square, or a combination of these given causes.

Successful hunting for these troubles requires experience that can be obtained only by continued practice.



Easy and Rapid Portability Is an Attractive Feature of This Mixer Mounted on a Rapid Truck, Equipped with Pneumatic Tires. The loading skip is so designed that it drops to the ground beside the truck for charging. The value of this equipment will be seen readily by the contractor running several jobs at the same time.



Reduce Power and Haulage Costs With the Fordson

One power plant now serves the needs of contractors, builders, engineers, supply dealers and municipalities. It's the Fordson!

For here is a power unit that functions either as a stationary power plant or for motive purposes. It furnishes the power for excavating, rock crushing, pumping, grading, heavy hauling, road building and maintenance, hoisting, transporting tools, supplies and men, etc.

Reports from users show unusual savings. The Imperial Sand & Gravel Screening Co., Columbus, Ohio, saves \$16.25 a day by hauling sand to the tipple with a Fordson instead of teams.

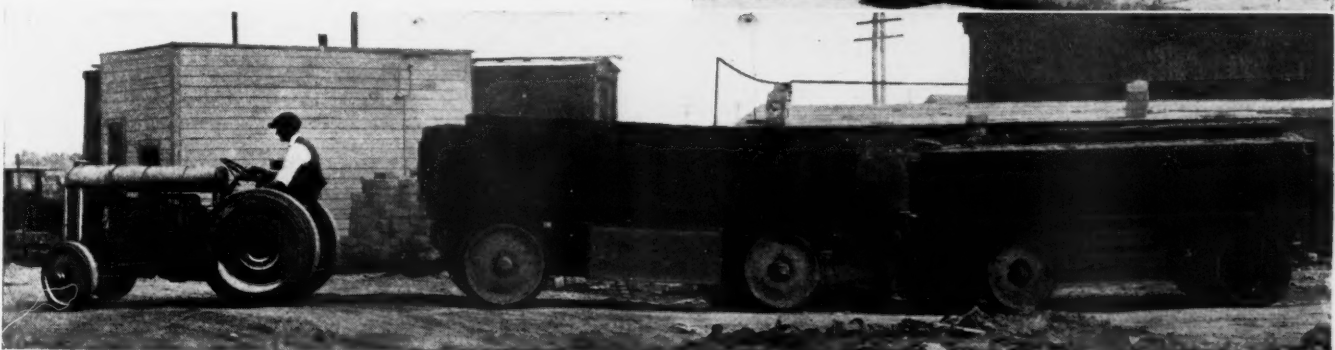
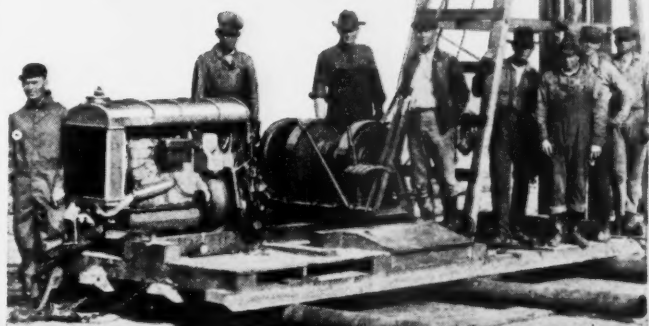
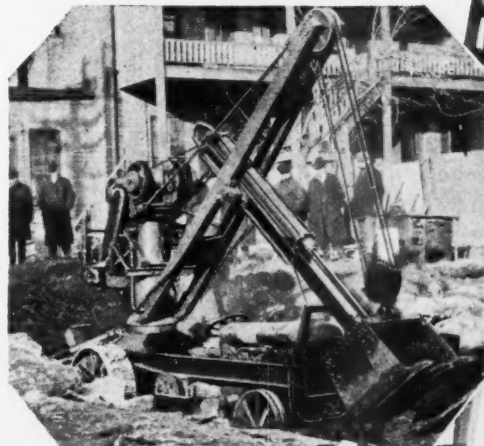
J. Mack Vaughn, St. Louis, Mo., can finish the excavating and grading of a basement 24 x 30 x 2½ feet in one day with a Fordson.

Your nearest Authorized Ford dealer can furnish additional facts and figures on the cost of operating the Fordson in your business. Call for this information and a practical demonstration.

Fordson Tractor, \$495 F. O. B. Detroit

Ford

CARS • TRUCKS • TRACTORS





A Sure Road to Wealth

A contractor started as poor as the proverbial church mouse 20 years ago. He has now retired with a fortune of \$50,000.00.

This money was acquired through economy, conscientious effort to give full value, indomitable perseverance, and the death of an uncle, who left the contractor \$49,999.50.—*Doorways*.



Now You Tell One

"Pat," said his master, "your wages are now 25 cents an hour, are they not?" "Yes, sirr." "Well, I intend to raise them to 30 cents an hour in future." "Stop a minute, sirr!!!" exclaimed Pat. "If I lost two hours will I lose 60 cents?" "Why, certainly," said the master. "Bedad, man," cried Pat, "I don't want your rise. I only lose 50 cents now."



Hurry—Hurry

"In the old days," said the hotel door-man, "if anybody missed a stage coach, he was contended to wait two or three days for the next. Nowadays a man lets out a sqawk if he misses one section of the revolving door."—*Boxes*.



Time to Retire

He—How is that back tire on your side, Eunice?

She (looking over the side of the car)—Oh, it's all right. It's flat on the bottom, but it's round on the top."



Save the Surface Propaganda

"Did you ever try a London tailor, Binks?" asked Witherbee.

"Yes—once, but never again," said Binks.

"Why, Bill, I don't believe one of those London tailors could make a coat of paint fit a hen-coop."—*Harper's Weekly*.



Did They Serve Him Right?

There was once a man who agreed with nobody. Finally he took a trip in the South Seas and was shipwrecked. He fell among cannibals—and agreed with them!—*Judge*.



A Business Head

Man—You're an honest boy, but the money I lost was a ten-dollar note.

Boy—Yes, I know; I had it changed so you could give me a reward.—*Kansas City Star*.

THE DAYS OF REAL SPORT—



Copyright, 1924, N. Y. Tribune, Inc.

Briggs in the New York Tribune.

It Might Have Been a Steam-ship

"When you found you hadn't your fare, did the conductor make you get off and walk?" asked the inquisitive man.

"Only get off," was the reply. "He didn't seem to care whether I walked or sat down."



He Knows

Al—There are an awful lot of girls that prefer not to marry.

Sal—How do you know?

Al—I've asked them.—*Chicago Phoenix*.



Pass a Law Against This!

In the course of a Y. M. C. A. success talk Charles M. Schwab, well-known steel magnate, spoke of the "anti-success spirit" and illustrated it by the following anecdote:

"Two workmen were wheeling dirt in wheelbarrows. The boss went up to one of them and said:

"'Look here, you! Your mate's wheeling four barrowloads to your one!'

"'Well,' snarled the workman, 'don't blame me. I've told him about it half a dozen times already.'"

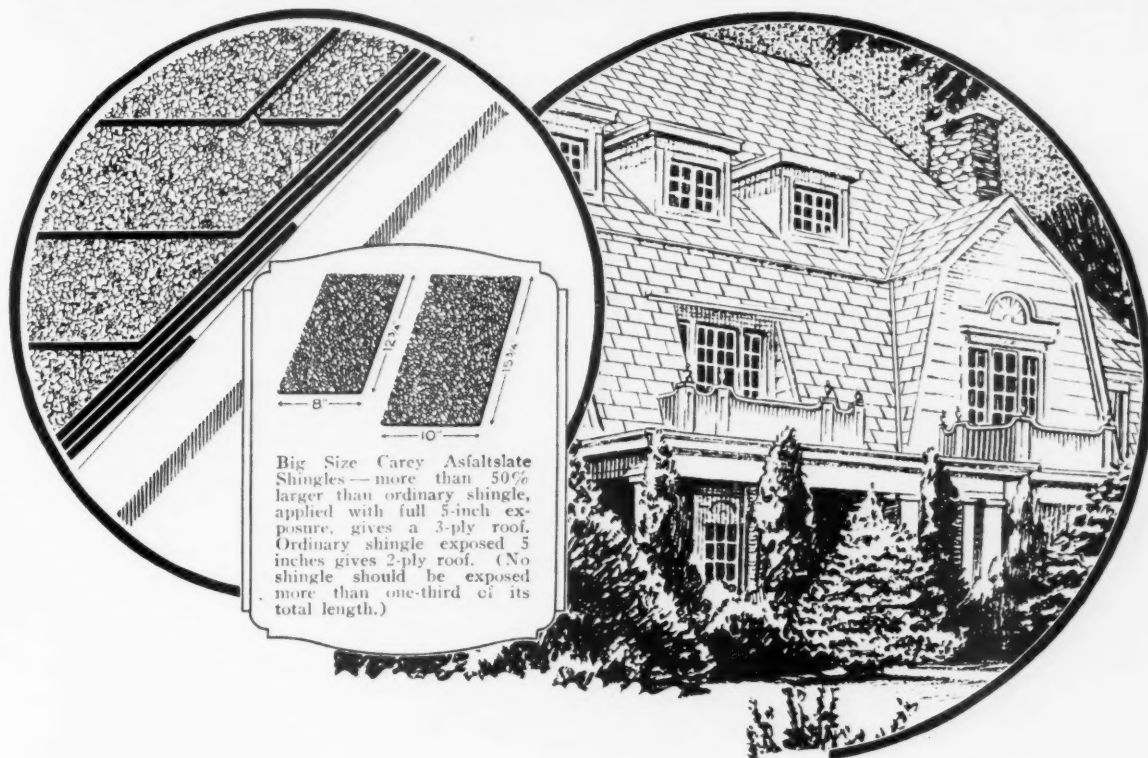


"A telephone pole never strikes an automobile except in self-defense."



When woman was made out of 'a man's rib, some one pulled a bone.—ANN TENNA.

This Shingle Will Satisfy Your Most Particular Customers



YOU have—as every contractor has—certain customers who require more detailed arguments, more definite proof, and **all** the facts, before they will make a purchase. You must give them superior quality.

Sell them the Carey Asfaltslate Shingle. Let them see “the Shingle that Never Curls” on their buildings; let them understand for themselves that here is a permanent roof, a roof that will protect for many years—a roof that is perfect from every viewpoint and yet very reasonable in cost. You’ll be surprised how such a roof will

change “cranky” customers into happy ones.

Further, you’ll find your construction work moving along faster. This shingle in the large size, the most popular size today, 10 x 15¾ inches, is easily and quickly applied. It allows an exposure of 5 inches and still makes a three-thickness roof. It comes in three colors, too. Red, green and blue-black. And, quite logically, a shingle that is good enough for your critical customers is also best for your other trade. We’d like to tell you more about this better shingle. Won’t you write us?

THE PHILIP CAREY COMPANY
510-530 Wayne Ave., Lockland, Cincinnati, Ohio

Carey
ASFALTSlate
SHINGLES

THE SHINGLE THAT NEVER CURLS

THE PHILIP CAREY COMPANY,
510-530 Wayne Ave., Lockland, Cincinnati, O.

Gentlemen: Please send copy of “Before You Build” booklet to

Name _____

Firm _____

Address _____

NEWS of the FIELD



October Shows Building Gain

OCTOBER building permit reports from 338 cities disclosed a large, well-distributed volume of construction contemplated during the next few months, the report prepared by S. W. Straus & Co. says. Only in the Pacific Coast cities was there any indication of a slowing down during the winter. The Eastern Central and Southern cities showed gains, compared with October, 1923, and also with September, this year.

The loss reported from the Pacific Coast was offset by gains in the other sections, making an increase of 3 per cent over October, 1923, and 16 per cent over September, this year, in the 338 cities reporting.

In 94 Eastern cities a gain of 8 per cent was reported over October, 1923, and 25 per cent over September, this year; in 112 Central cities the gain over October, 1923, was 2 per cent and over September, this year, 12 per cent; in 52 Southern cities the October gain was 29 per cent and the September gain 20 per cent. In 80 Pacific Coast cities the loss from October, 1923, was 19 per cent and from September, this year, 4 per cent.

The 338 cities reported a total of \$305,056,214, compared with \$295,571,973 in October, 1923, and \$264,037,736 in September, this year.

The twenty-five leading cities reported a total of \$193,585,127, which is the largest volume of permits in the leading cities since June this year. It is noteworthy, however, that the percentage of gain in the larger cities over October, 1923, was but slightly greater than the gain throughout the country at large. This shows that building is not now centered in the leading cities as was the case in 1923, but well distributed throughout the nation.

Although the twenty-five leading cities showed a gain of more than \$8,000,000 over last October, several of them, including New York, Chicago and Los Angeles, showed losses. In Greater New York the Boroughs of Brooklyn, Queens and Richmond showed losses from October, 1923. Manhattan and the Bronx gained, but the loss of the Greater City was more than \$3,000,000. Chicago had a loss of more than \$4,000,000. Detroit held third place, as during September.

Among the larger cities which gained over September, 1923, Atlantic City led with an increase of 609 per cent.

Some of the other outstanding large city gains were St. Louis, 327 per cent; Dallas, 175 per cent; Washington, D. C., 78 per cent; Birmingham, 61 per cent; San Francisco, 61 per cent, and Hartford, Conn., 60 per cent.

The Material Market

Standard measures of construction cost revealed little if any change during October, one index containing exactly the same as in the previous month and another showing a decline of less than one-fourth of 1 per cent between October 1 and November 1. Apparent stabilization in building material prices seems to have been reached after the downward trend of the summer months and no abrupt price changes are anticipated for the early future.



Conveyors Corp. Agency Announced

THE Conveyors Corporation of America, 326 West Madison Street, Chicago, announce the appointment of W. P. MacKenzie Company, 1234 Callowhill Street, Philadelphia, as their sales representatives in Southeastern Pennsylvania and Southern New Jersey.

This organization will handle the sale of American steam jet ash conveyors, American cast iron storage tanks, American air tight doors for ash pits and boiler settings, and other specialties.

Associated with Mr. W. P. MacKenzie in the sales organization are Messrs. John Beard, J. E. Fulweiler, S. T. MacKenzie and W. R. Lunn.

In addition to the sales of the American steam jet ash conveyor the MacKenzie organization handle the sale of the products of Alphons Custodis Chimney Construction Company, International Filter Company, Peabody Engineering Company, L. J. Wing Manufacturing Company, and others.



Cyclone Fence Company Sold

THE consummation of negotiations which have been under way for some time, have now been concluded, whereby the properties of the Cyclone Fence Company have been purchased by the United States Steel Corporation.

The transfer of the Cyclone properties includes their factories at Waukegan, Illinois, and Cleveland, Ohio, also plants at Fort Worth, Texas, and Newark, New Jersey.

Through the acquiring of the Cyclone Fence Company by the United States Steel Corporation, the corporation is entering into a phase of the fence manufacture not heretofore practiced by them, and in which the Cyclone Fence Company has led the field in its line of manufacture.

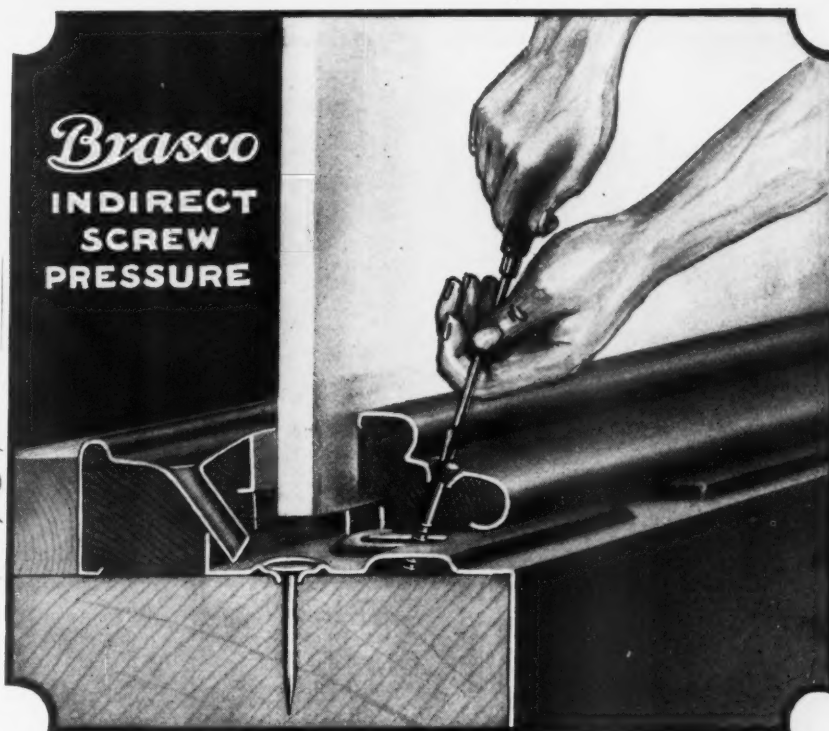
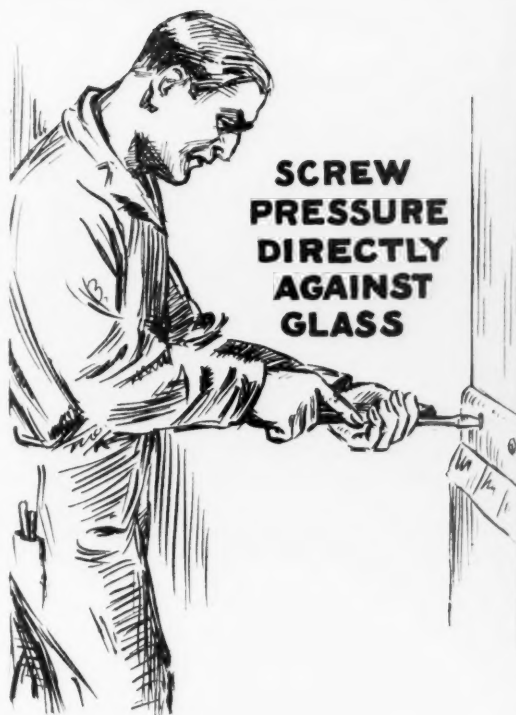


Flooring Plant Changes Hands

THE Indiana Flooring Company, 234 Rider Avenue, New York City, recently has acquired the oak flooring plant of the Yellow Poplar Lumber Company, Coal Grove, Ohio. Work is now under way to increase the efficiency of the plant and to build extensive additions. This purchase by the Indiana Flooring Company comes less than two years after the firm acquired a maple flooring plant at Reed City, Mich. Products of the Indiana Flooring Company now are distributed from New York City, Washington, D. C., Reed City, Mich., and Coal Grove, Ohio.

SUMMARY OF OCTOBER, 1924, BUILDING REPORTS BY REGIONS

No. Cities	Regions	October, 1923	October, 1924	September, 1924	Gain or Loss Oct.-Oct.	Gain or Loss Sept.-Sept.
94	Eastern	\$136,165,166	\$125,910,930	\$109,100,702	\$10,254,236 + 8 per cent	+ \$27,064,464
112	Central	101,515,475	99,392,361	90,609,097	2,123,114 + 2 per cent	+ 10,906,378
52	Southern	27,664,989	21,395,600	23,031,128	6,269,389 + 29 per cent	+ 4,633,861
80	Western	39,710,584	48,873,082	41,269,809	9,162,498 - 19 per cent	- 1,586,225
338	Total	\$305,056,214	\$295,571,973	\$264,037,736	\$9,484,241 + 3 per cent	+ \$41,018,478 + 16 per cent



Brasco Indirect Screw Pressure Insures Absolute Glass Safety

One of the most vital factors in store front construction is the provision for holding the glass *safe* against breakage.

The remarkable records that Brasco fronts have made in holding glass safely—by actual check-up in cities and towns throughout the country—are due not only to the extra wide, supple and uniform grip on the glass, but in large measure to the principle of *indirect screw pressure*.

Brasco differs from ordinary construction in that no screw points directly toward the glass, and there never is danger, therefore, of the glass settling down on any screw.

This distinctive method of fastening removes all possibility of any holding strain being transmitted to the plate, because it is taken where it belongs—by the supporting members.

Vibration, shock or wind and storm pressure cannot possibly force the glass into contact with the screws to crack and ultimately smash the plate.

Brasco safety to glass is recognized universally by contractors, builders, architects, owners and merchants. It has lowered insurance rates in many instances and is recommended and used widely by insurance companies themselves.

Brasco advantages are so many and so superior that contractors find it remarkably easy to get new and repeat orders and establish an unusually profitable and permanent business installing Brasco Fronts. If you have never looked into this opportunity, begin now by mailing the coupon below. It will bring you full "brass-tacks" information entirely without obligation.

BRASCO MANUFACTURING CO.

5029 South Wabash Ave., Chicago

Brasco
COPPER STORE FRONTS

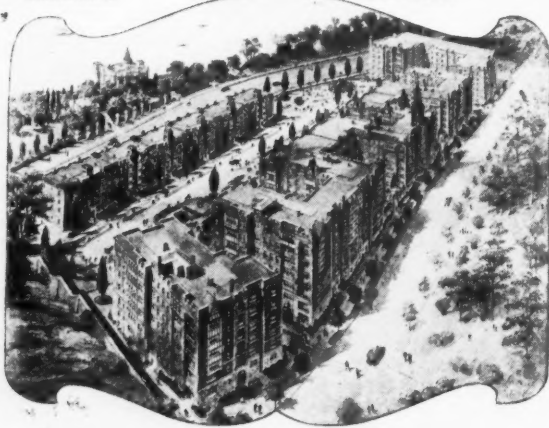
(AB1224)

Send me the new Brasco book of designs and information on store front work.

Name _____

Address _____

Business _____

HUDSON VIEW
GARDENSGEORGE FRED PELHAM, Inc.
Architect

New York's New Super-Apartment Installs 415 A-B Gas Ranges

"Recognized Everywhere As America's Best"

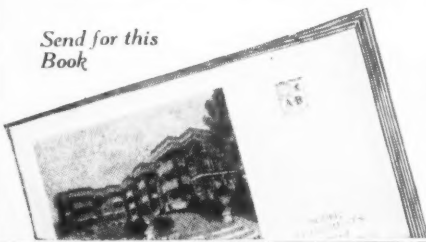
WHEN architects of so imposing a monument to modern apartment building as the new Hudson View Gardens look to the A-B Gas Range for completing its equipment, it is a tribute both to the simple beauty and efficiency of the A-B and to the faith of architects in its sound investment value.

In the finest apartments of New York, Boston, Detroit, Chicago and elsewhere throughout the country, wherever the convenience and comfort of the tenant are held as important as serviceability and economy of equipment, you will find the A-B Gas Range.

You will find much valuable reference data in "Modern Apartments" and "Standard Gas Range Specifications". Both books are yours for the asking.

A-B STOVE COMPANY BATTLE CREEK MICHIGAN
World's Largest Exclusive
Manufacturers of Gas Ranges
Factories at
BATTLE CREEK, MICH. and LOS ANGELES, CAL.

Send for this
Book



B 28

A-B STOVE COMPANY, BATTLE CREEK, MICH.

Please Send me copy of Modern Apartments and
Standard Gas Range Specifications

Name

Address

City State

The Master House Bureau

A VERY interesting development in the building field is the recent organization of the Master House Bureau, D. H. Nichols, president, Cleveland Discount Building, Cleveland, Ohio. The primary purpose of the Master House Bureau is to improve conditions in the home building industry so that there will be a lively demand for sound and safe construction.

You don't like to cheapen your work, skimp the job, and sell homes that you *know* are not what they should be.

Lack of general appreciation of safe and sound construction has forced many builders to do these things.

Lower prices have been more in demand than permanent values.

The fault is not with the builder so much as with the *people who buy*.

They do not appreciate that values in homes are determined by the details that are *hidden* between the walls and under the floors—the *workmanship* that is necessary to do a first-class job.

The only way they can be made to see the practical advantages of permanent construction is to familiarize them with these essential details and impress them with their importance.

This is now being attempted in the Master House advertising, supplemented by wide distribution of their Safeguard Policy.

The advertising is reaching thousands of home owners and buyers. It will create a demand for better construction.

How to get permanent construction is clearly outlined in the Safeguard Policy. In this document are outlined the *details* of good construction, emphasizing the need for careful selection of materials and supervision of workmanship. Familiarity with the details of construction will make people more appreciative of and inclined to use those acknowledged to be best.

The great value of the Safeguard Policy is in the fact that each detail is *recorded* in the document as the work progresses. Properly signed by all parties having a share in the work, the policy becomes as much a part of the house as the deed to the property.

It is a *certification of value* that will always establish the worth of the building and bring to light the *hidden* merits which are, otherwise, buried beneath attractive surfaces, between the walls and under the floors.

You will, we hope, accept the Safeguard Policy for just what it is—a sincere attempt to increase demand for permanent construction and to make it easier to sell such homes.

Give a Safeguard Policy with each home you have for sale. The policy is applicable to any home as a means of proving *value*.



Oxy-Chloride Flooring and Stucco Manufacturers' Organization Active

THE National Association of Oxy-Chloride Cement Manufacturers, formerly the National Association of Composition Flooring Manufacturers, has undertaken a country-wide campaign for increased membership. The campaign is under the direction of the directors of the association, Messrs. Wm. Baumbach, president of the association, American Monolith Co.; H. S. Webster, vice-president of the association, the Rockbond Co.; B. W. Page, secretary-treasurer of the association, Marbleoid Co.; H. E. Williams, Williams-Wendt Co.; G. W. Selby, Marine Decking & Supply Co.

The campaign for increased membership is based upon a definite program of activity that has been adopted by the association, some phases of which are already in effect. The program provides for work along such lines as the development of standards of practice, arbitration and adjustment of

(Continued to page 166.)



One Name for Every Window

Fenestra is a name for better steel windows throughout the houses you build—basement windows—casement windows—garage windows. All three types come onto the job completely assembled and equipped, ready to be quickly and economically installed. All three are made in standard sizes and are designed from solid steel bars—permanent, attractive and always easy to operate. They admit maximum daylight and fresh air, and they add so much to the beauty and usefulness of a home that they make it far more saleable without adding to your building cost.

It will pay you to get complete Fenestra facts. Write for literature and the name of a near-by dealer who can show these windows to you.

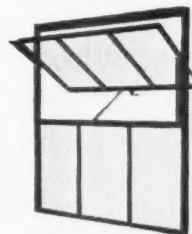
DETROIT STEEL PRODUCTS COMPANY
2260 East Grand Boulevard, Detroit, Mich.



Fenestra Casement



Fenestra Basement Window



Fenestra Utility Window

Fenestra

WINDOWS FOR THE HOME

Detroit Steel Products Company
2260 East Grand Blvd.
Detroit, Mich.

Please send me information regarding your

- ☐ Fenestra Steel Casements
- ☐ Fenestra Basement Windows
- ☐ Fenestra Utility Windows

Name

Address

(The hardest hardwoods grow in the North)

STEADILY INCREASING SATISFACTION

the longer the owner lives,
is so sure an outcome with

Beautiful
birch

that both the builder and artisan
do themselves a favor, as well
as their customer, when boost-
ing that sterling hardwood
for doors, floors and standing
trim in homes of every type.
This applies equally to all apart-
ments and public buildings.

birch from the virgin forests
of Northern Michigan and
Wisconsin is "the most behav-
ingest" hardwood in the
American market today. It
is easily handled and stands
up so perfectly after instal-
lation that every job is a per-
petual advertisement for every
man who had a hand in it. *The
owner's enthusiasm grows.*

*Write us your experiences and ask us partic-
ulars. We are here to help you in every way.*

THE BIRCH MANUFACTURERS

201 F. R. A. Building
OSHKOSH, WISCONSIN



(The hardest hardwoods grow in the North)

(Continued from page 162.)

differences within the industry, an aggressive widening of markets and scientific research. The organization has established executive headquarters at 1328 Broadway, New York City, in charge of a salaried staff.



Cash Prizes for House Designs

A THOUSAND dollars in prizes for Heatrola-heated cellarless house designs is offered by the Estate Stove Company, a goodly share of which should be won by AMERICAN BUILDER readers.

This is really a double contest, with two sets of prizes in each division—one-story and two-story Heatrola-heated cellarless houses. Modern comfort, convenience, economy and fine appearance will be the main factors considered. Ideas will count more than skill in draftsmanship. There are two first prizes of \$200 each, two second prizes of \$100 each, two third prizes of \$50 each and twelve prizes of \$25 each.

Contestants having full knowledge of Heatrola-heating methods and details will have the best opportunity of winning these prizes. Standard layout sheets on which to draw the plans as well as full information regarding the heater and the contest may be secured by writing to the Estate Stove Company, Hamilton, Ohio. The contest closes February 16th.



Wheeler, Osgood Co. Open New York Display Rooms

THE Wheeler, Osgood Company, of Tacoma, manufacturers of "Laminex" and "Woco" doors, recently have opened quarters for the display and sale of their products in the Grand Central Terminal, New York City, under the management of W. S. Nuremburg, who formerly represented his firm at Chicago.

Displays of "Laminex" doors in both the flat and vertical grain finishes will be maintained in the new quarters. One of the novel features of the display will be that on a single door a flat grain finish will be shown on one side and a vertical grain on the other. Architects and builders are invited to visit the New York display.

The Wheeler, Osgood products are distributed only through jobbers. In addition to the New York sales offices, branches are operated at Memphis, Tenn., Los Angeles, San Francisco and Spokane.



A New Beaver Board Product

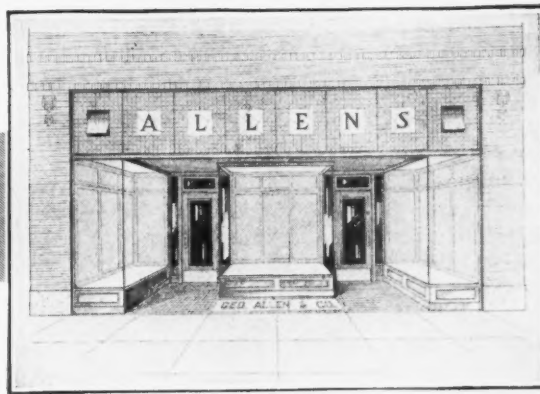
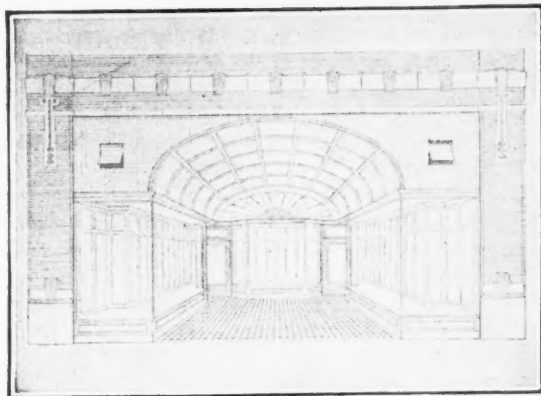
A NEW wallboard product which is 25 per cent thicker, stronger and stiffer than any of their previous products has just been brought out by the Beaver Products Company, Buffalo, N. Y. This will be known as their Five-Ply Beaver Wall Board and has ample strength and rigidity for new wall construction. It retains the splendid paint-taking qualities of former Beaver Board products, is a full one-quarter inch thick and has remarkable strength and rigidity. Cost of this new five-ply board is said to be but little more than for the standard thickness.



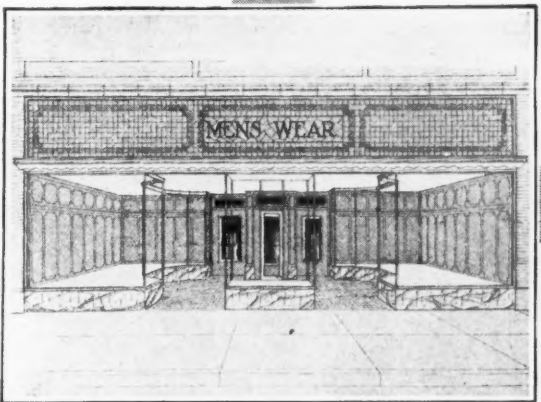
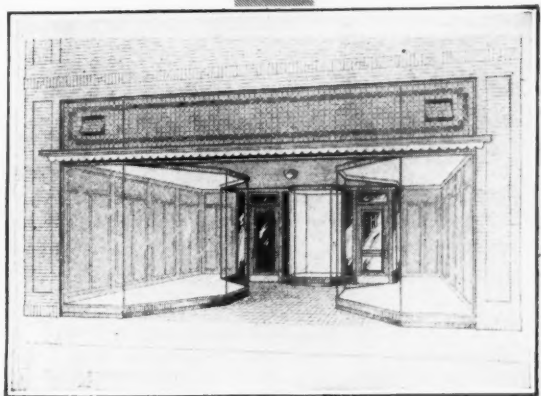
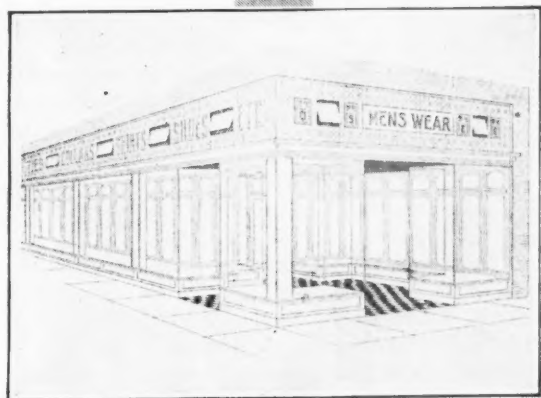
Copper and Brass Association Elect Officers at Annual Meeting

THE fourth annual meeting of the Copper & Brass Research Association was held at 2:30 o'clock November 6 at its offices, 25 Broadway, New York City. At a meeting of the Board of Directors the following officers were elected:

President, Mr. R. L. Agassiz; vice-presidents, Mr. C. F. Kelley, Mr. F. S. Case, Mr. Walter Douglas, Mr. H. J. Rowland and Mr. U. T. Hungerford; treasurer, Mr. Stephen Birch; secretary, Mr. George A. Sloan, and manager, Mr. William A. Willis.



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More than 300,000 merchants are being told every month of the superior qualities of Kawneer Solid Copper Store Fronts. Thousands and thousands of them are serving merchants satisfactorily on most every business street. Why not cash in on this publicity and leadership? Kawneer store front work as easy and profitable. Let us tell you more about it.

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Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Norton Floors" is the descriptive title given to a publication recently issued by the Norton Company, Worcester, Mass., which describes the types of flooring material produced by the company. These materials fall under four principal classifications, Alundum Floor and Stair Tile, Alundum Ceramic Mosaic Tile and Treads, Alundum Aggregates and Alundum Aggregate Tile and Treads. The booklet is illustrated very attractively with pictures showing many uses and applications of the materials.

Koehring Company, Milwaukee, Wis., has published a very interesting pocket list of Koehring heavy duty construction equipment, which lists and describes briefly some of the pavers, trailers, construction mixers, "Dandie" light mixers, bar benders, bar cutters, gasoline cranes, draglines and shovels made by the company. The booklet, of a convenient pocket size, has a number of interesting illustrations.

The Union Metal Manufacturing Co., Canton, Ohio, has just published a most complete street lighting catalog, "Better Street Lighting Book No. 52," which shows the latest types of ornamental lights for streets, parks and such special adaptations as bridge lighting, oil filling station lighting and a number of other applications of ornamental lighting standards. The book is well illustrated with pictures of the different designs of lighting standards and with pictures of installations of the Union Metal Products in many cities of the United States.

Peerless Built-in Furniture, manufactured by the Built-in Furniture Co., 2608 San Pablo Avenue, Berkeley, Cal., is shown in detail in a series of prints for architects and builders issued in a looseleaf folder by the manufacturing company. The plates give the dimensions of the built-in ironing boards, telephone cabinets, folding wall seats, folding wall tables, table cabinets and numerous assemblies manufactured by the California concern.

The 7-S Mixer, published by the Leach Company, Oshkosh, Wis., gives the results of a series of tests conducted on a number of different makes of concrete mixers by the Robert W. Hunt Company, Consulting Engineers. The faults found by the consulting engineers in concrete mixers, which are not identified, are interesting and instructive.

"The Inventor's Manual, How to Make a Patent Pay," by George M. Hopkins (The Norman W. Henley Publishing Company, 6 West Forty-fifth Street, New York, N. Y. Price, \$1.50), is a cloth bound volume of 138 pages designed as a guide to inventors in taking out their patents and disposing of them. This is the third revised edition of the book.

American Running Water Systems for farms, suburban homes and summer cottages are treated in Bulletin No. 166 of the American Well Works, Aurora, Ill. Complete equipment, including pumps, tanks and power equipment, is listed. The types of pumps, tanks and the power furnished with the outfits is varied to meet different conditions encountered in installations of this type.

White's Improved Instruments for Engineers, Surveyors and Builders are cataloged and illustrated in Catalog A, Fifth Edition, issued by the David White Company, Incorporated, 901-915 Chestnut street, Milwaukee, Wis. A very complete line of transits, levels, leveling rods, ranging poles and other supplies of the like nature are shown.



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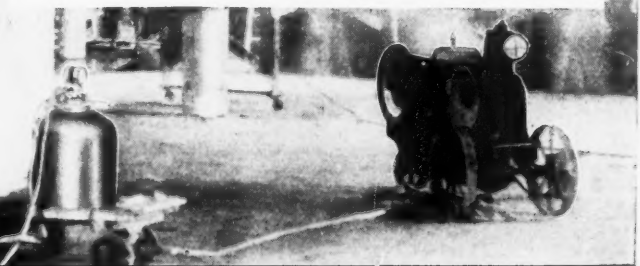
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is a miniature encyclopedia on first class home construction. It emphasizes why certain details should be as described to reduce fire hazard, explains how to build to conserve heat in winter and keep cool in summer, and dwells on the points of workmanship that determine the real value, life and comfort of a home.

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And you can do it, not alone by your own statements but by using the impar-

tial standards described in the Policy to prove each and every point.

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All doubt is removed—confidence is established—the sale is more quickly completed.

Get the free booklet that tells all about the Policy, the work of the Bureau, its purpose, and how it helps you.

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☐ Enclosed please find \$1.00 for Safeguard Policy and free descriptive booklet.
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Cleveland, Ohio

Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

Standard Specifications for grades of Southern Yellow Pine Lumber are given at length in the booklet of that title issued by the Southern Pine Association, New Orleans, La. The specifications, which are effective July 1, 1924, supersede all previous issues. The specifications are those for Southern Yellow pine generally recognized by the lumber trade for many years. The publication contains the grading rules under which the product of the members of the association is graded, with the recognized defects, the dimensions of the finished lumber and descriptions, with diagrams of many of the Southern Yellow Pine products.

"Standardization—What It Is Doing for Industry," is the title of a small but interesting publication issued by the American Engineering Standards Committee, 29 West Thirty-ninth Street, New York, N. Y. The booklet describes how standardization is being carried on, first, in the individual plant; second, in industry as a whole; third, nationally on an inter-industrial basis, and, last, on an international basis.

Archer Mixers and their money saving properties are described and illustrated in an attractive booklet issued by the manufacturers, the Archer Iron Works, Chicago, Ill. The book gives the general specifications of the different mixers made by the company, outlines their advantages in detail in shows a number of illustrations of the machines in use.

Natco Standard Hollow Tile Arches are described and illustrated in an interesting manner in a booklet recently issued by the National Fire Proofing Company, Pittsburgh

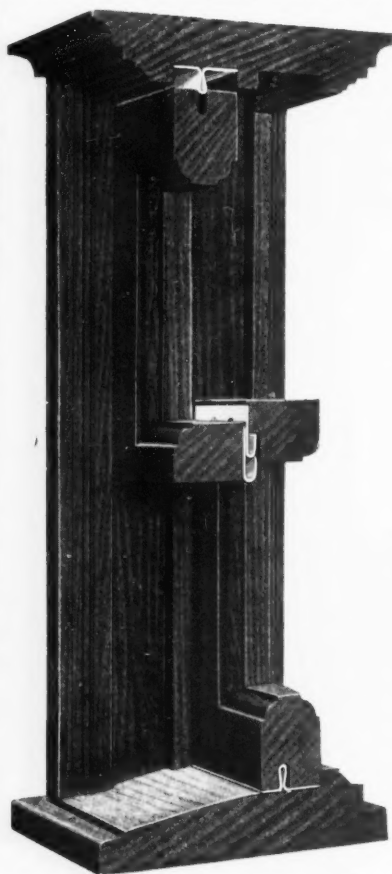
and Chicago. The uses of the different types of arches in floors and roofs are discussed and illustrated.

Febrisco Welded Solid Steel Sash and its advantages are presented in a very attractive form in the latest catalog of the Federal Steel Sash Company, Waukegan, Wis. The catalog tells of the special features of the product, describes the manufacturing methods and lists the various types of sash manufactured. The publication is illustrated attractively and shows a number of useful drawings of details of the installation of the various products of the Federal Company.



Answers to Roof Framing Problems on Page 124

1. Pitch of roof = $\frac{3}{8}$.
2. The length per foot run is 15.00 inches.
3. Length of common rafter 10×15 inches = 150 inches = 12 feet 6 inches.
4. Use 12 and 9 on square for plumb and seat cuts.
5. Length of hip or valley per foot run of common rafter, 19.21 inches.
6. Length of hip rafter on addition is 5×19.21 inches = 96.05 inches = 8 feet 0.05 inch or 8 feet 0 1/16 inch.
7. Use 17 and 9 on square for plumb and seat cuts of hip or valley.
8. Use $19\frac{1}{4}$ and 17 on the square for side cuts of hip and valley rafters.
9. The numbers $19\frac{1}{4}$ and 9 give the backing of hip and valley rafter.
10. The length of the long valley is 10×19.21 = 192.1 inches = 16 feet 0.1 inch or 16 feet 0 3/32 inch.



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STATEMENT OF THE OWNERSHIP, MANAGEMENT,
CIRCULATION, ETC., REQUIRED BY THE ACT
OF CONGRESS OF AUGUST 24, 1912

Of AMERICAN BUILDER, published monthly at Chicago, Ill., for
October 1, 1924.

State of Illinois }
County of Cook } ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared E. L. Hatfield, who, having been duly sworn according to law, deposes and says that he is the business manager of the AMERICAN BUILDER, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher—American Builder Company, Chicago, Ill.

Editor—Wm. A. Radford, Chicago, Ill.

Managing Editor—Bernard L. Johnson, Chicago, Ill.

Business Manager—E. L. Hatfield, Chicago, Ill.

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each, should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock should be given.) Wm. A. Radford, Chicago, Ill.; H. M. Radford, Chicago, Ill.; Roland D. Radford, Chicago, Ill.; Wm. A. Radford, Jr., Chicago, Ill.; E. L. Hatfield, Chicago, Ill.; B. L. Johnson, Chicago, Ill.; G. W. Ashby, Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary

relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

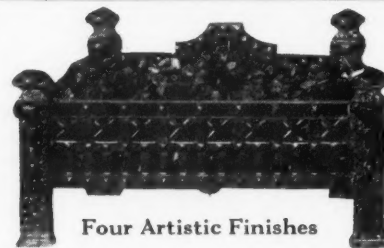
E. L. HATFIELD, General Manager.

Sworn to and subscribed before me this 30th day of September, 1924.

[SEAL]

ANDREW JOHN NAUMANN.

(My commission expires October 23, 1925.)



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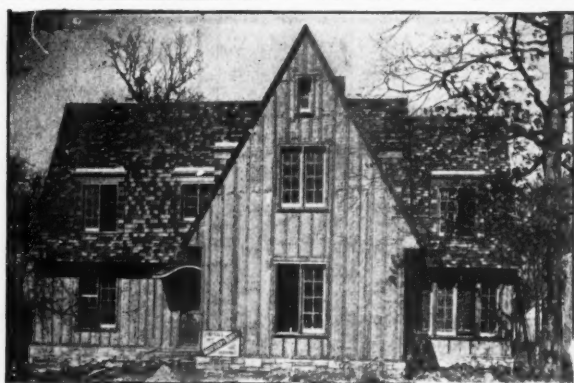
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Cabot's Insulating Quilt

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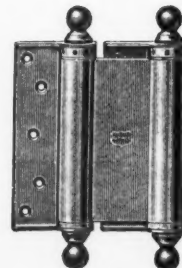
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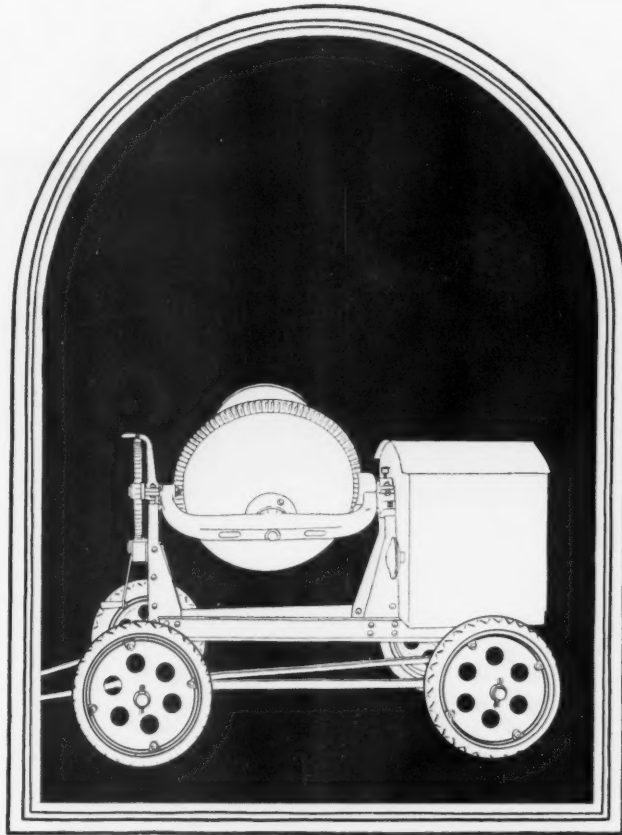


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A small mixer that is built to big mixer standards

IN this new Leach-Oshkosh 3½-Tilter, you will find the same advantages that you have always associated with larger mixers.

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for long periods.

It has the same efficient mixing action, the same ease of operation, an equally dependable engine. Even the wheels are a smaller duplication of the sturdy self-oiling wheels used on the larger Leach Mixers.

Down to the last detail every inch of this mixer shows that it has been built with the full realization that *small requirements are just as exacting as large requirements.*

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